PASSENGER SERVICE EFFICIENCY NUMBER

NOVEMBER 21, 1942

Railway Age

GM Diesel Road Power Proves *Vital to the Nation*

BECAUSE of the all-time record increase in normal passenger and freight traffic and, also, the large number of trains required for the movement of our armed forces, railroads not having surplus heavy passenger power have been forced to haul extra passenger trains with freight locomotives . . . The need for freight power being extremely critical, many railroads like the Louisville & Nashville are relieving this condition with General Motors Diesel Road Locomotives . . . On the L. & N., eight 4000 Hp. GM Diesels have released 15 to 18 heavy steam passenger locomotives for extra passenger duty, which in turn have released a substantial number of freight locomotives for service where they are so seriously needed. More than 360 GM Diesel Road Locomotive Units, now in service on 27 American railroads, are proving that *transportation* is vital to VICTORY and

VICTORY IS OUR BUSINESS

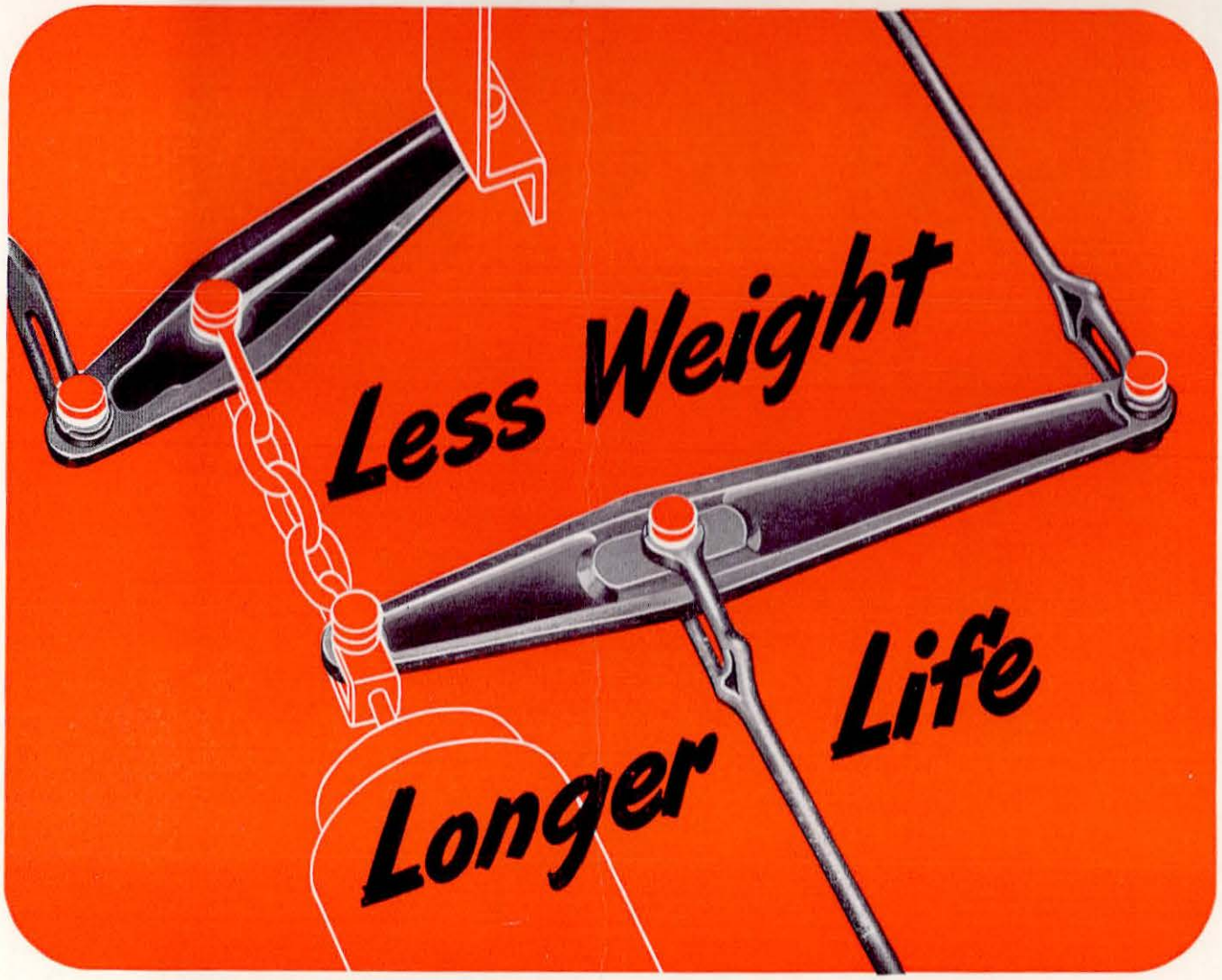
GENERAL MOTORS LOCOMOTIVES

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION — LA GRANGE, ILLINOIS, U.S.A.

McCARTNEY LIBRARY
GENEVA COLLEGE

See insert starting on page 69a



Schaefer Forged Steel Foundation Brake Gear Appliances are doubly important parts in America's war effort. Less steel is used to accomplish the same result — and with longer life.

Schaefer EQUIPMENT COMPANY

KOPPERS BUILDING • PITTSBURGH, PA.

LOOP, "U" AND STIRRUP TYPE BRAKE BEAM HANGERS ... TRUCK, CYLINDER AND FLOATING LEVERS
TRUCK LEVER CONNECTIONS ... BRAKE ROD JAWS ... WEAR PLATES ... BRAKE SHOE KEYS

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 113, No. 21.

Man-hours Lost Through Accidents

Could Build

115,000
FIGHTER PLANES

or, 300,000
LIGHT TANKS

or, 99
BATTLESHIPS

More than 480,000,000 days of work were lost in 1941 because of death and accidents to men and women of America. This manpower could have been used to build 115,000 fighter planes, or 300,000 light tanks, or 99 battleships—enough fighting machines to win many battles and materially shorten the war.

Manpower in industry is the main source of war production—and the enemy of production is—ACCIDENT. Every lost-time injury to a worker is a setback to our war effort, and a delay to final victory. Accidents to war workers may also cause loss of men at the battle fronts, for only full war production can give our fighters the fire power and the protection they need.

Conservation of manpower is more important today than ever before, because this is a critical war year, and because 10,000,000 new workers, unversed in modern safety practices, are being added to factory payrolls. Keeping America's industrial manpower at full time production is a job for management—it is a job for the worker, for his home folks—it is a job for all America.

The iron and steel industry ranks near the top among all industries in safety of workers, and Inland's safety record is one of the best in the steel industry. But greater effort than ever is being made by our safety department and medical clinic to conserve every hour of every Inland man.

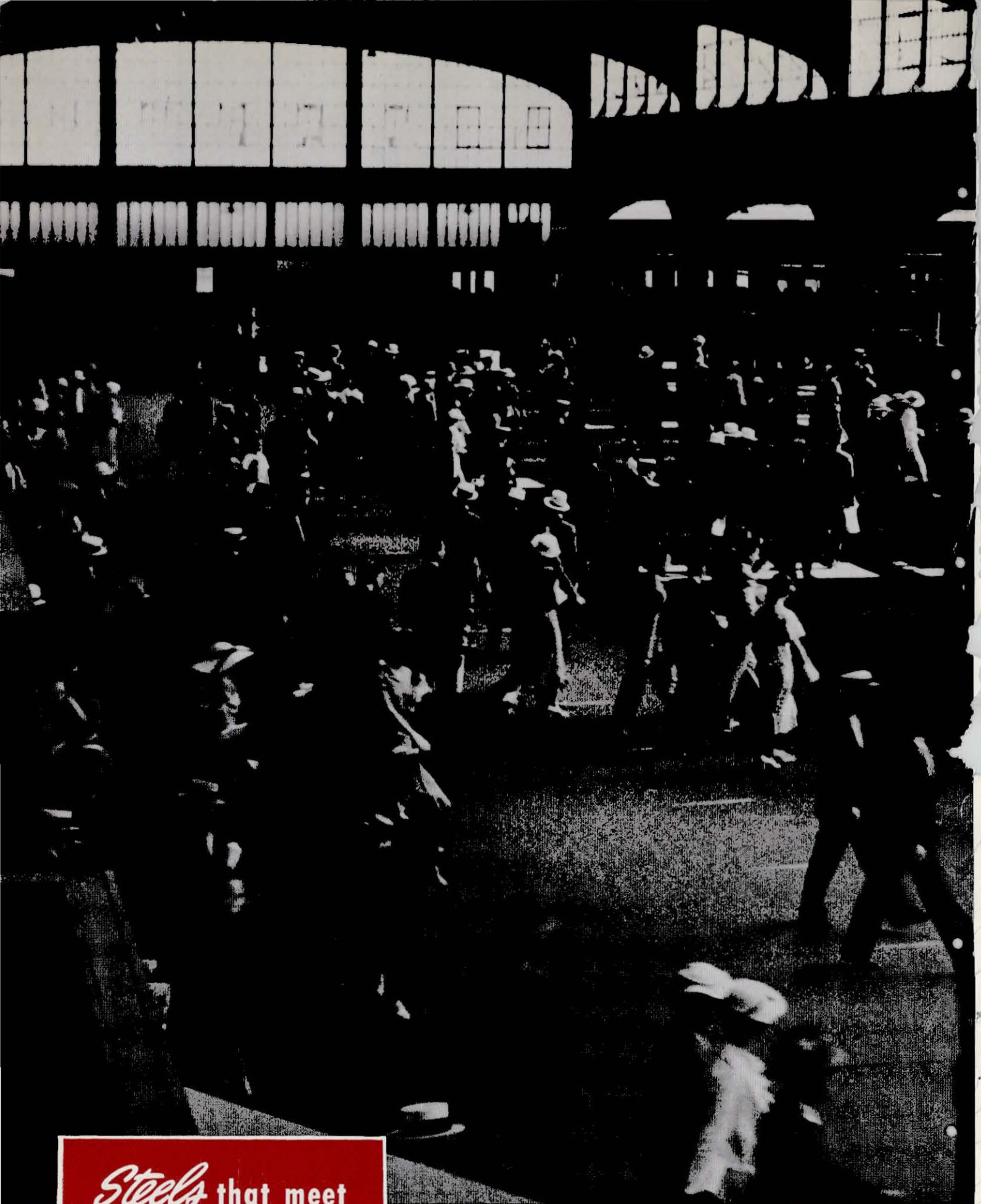
Doubling and redoubling our efforts to conserve manpower for maximum war production in 1942 is one of the best ways we can back up our fighting men.

INLAND STEEL CO.

38 S. Dearborn St., Chicago

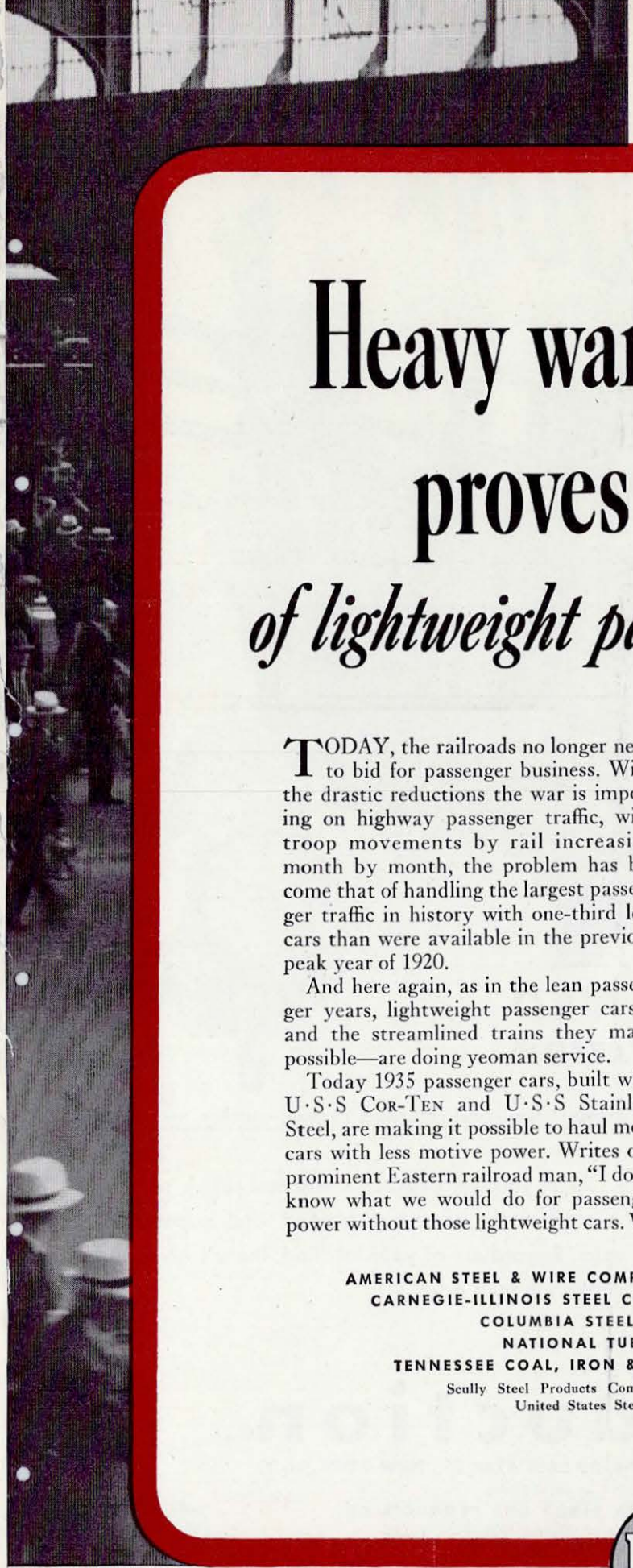
Sales Offices: Milwaukee • Detroit • St. Paul • St. Louis • Kansas City

The non-skid, heavy-duty tread of *Inland* *4-Way Floor Plate* assures safe footing for men and safe traction for wheels.



Steels that meet the challenge of today and tomorrow

UNITED



Heavy wartime traffic proves benefits

of lightweight passenger equipment

TODAY, the railroads no longer need to bid for passenger business. With the drastic reductions the war is imposing on highway passenger traffic, with troop movements by rail increasing month by month, the problem has become that of handling the largest passenger traffic in history with one-third less cars than were available in the previous peak year of 1920.

And here again, as in the lean passenger years, lightweight passenger cars—and the streamlined trains they made possible—are doing yeoman service.

Today 1935 passenger cars, built with U·S·S Cor-Ten and U·S·S Stainless Steel, are making it possible to haul more cars with less motive power. Writes one prominent Eastern railroad man, "I don't know what we would do for passenger power without those lightweight cars. We are hauling more passengers than ever before but we get along because we can now hook on four or five more cars before we have to double-head the train."

What is equally important, this lightweight equipment is showing a gratifying ability to stay in service—with a minimum of shopping. In fact, every claim for the economic advantages of light construction is being thoroughly confirmed.

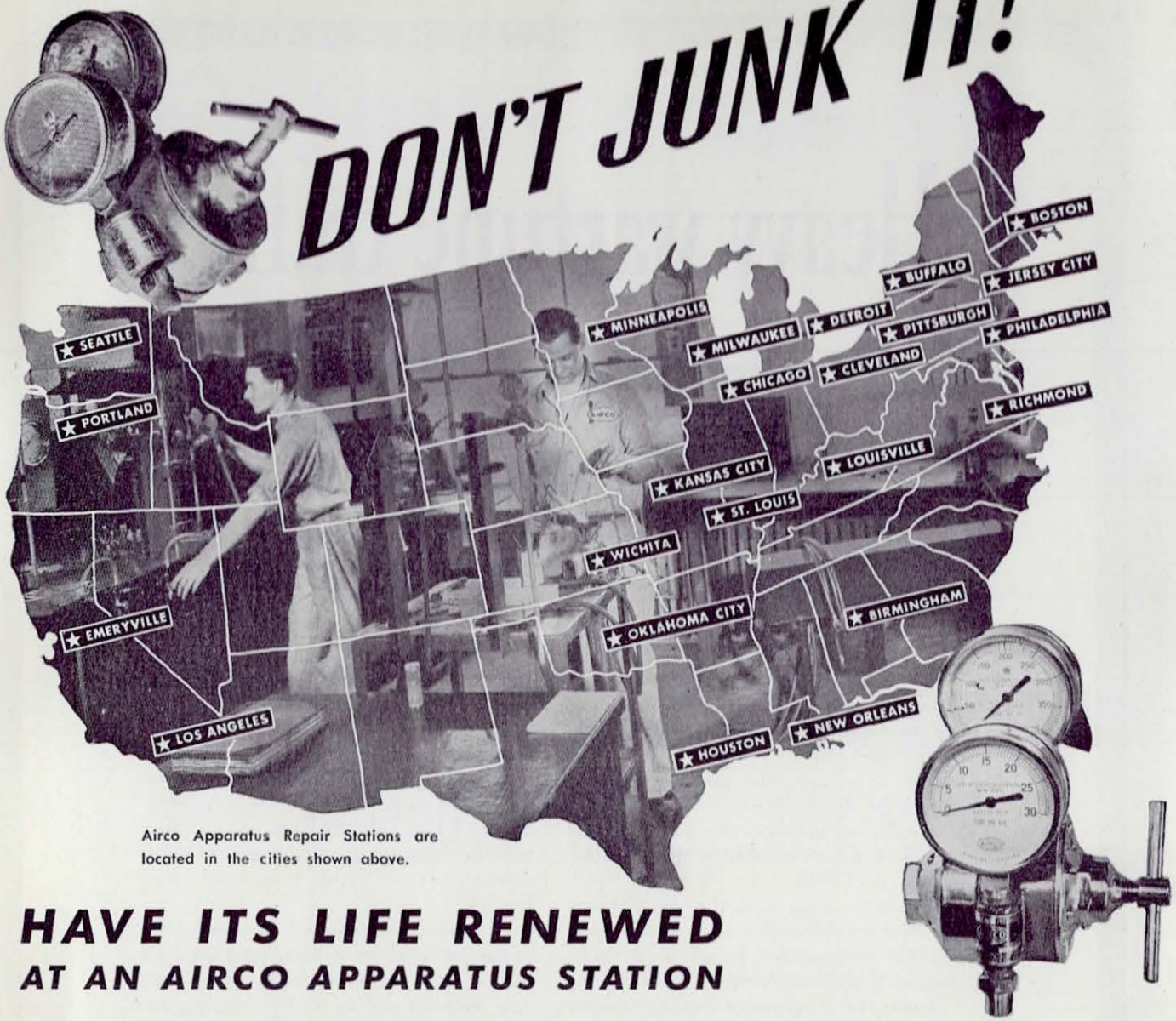
At present both Cor-Ten and U·S·S Stainless Steel have been restricted for direct use in war equipment. But we ask you to keep a close check on the outstanding performance these weight-reducing steels are now turning in so that you will not overlook the benefits they can add to your equipment when they are again available to help you meet the competition of the post-war period.

AMERICAN STEEL & WIRE COMPANY, *Cleveland, Chicago and New York*
CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago*
COLUMBIA STEEL COMPANY, *San Francisco*
NATIONAL TUBE COMPANY, *Pittsburgh*
TENNESSEE COAL, IRON & RAILROAD COMPANY, *Birmingham*
Scully Steel Products Company, Chicago, *Warehouse Distributors*
United States Steel Export Company, New York

USS

STATES STEEL

DON'T JUNK IT!



Airco Apparatus Repair Stations are located in the cities shown above.

HAVE ITS LIFE RENEWED
AT AN AIRCO APPARATUS STATION

New oxyacetylene torches, tips and regulators are becoming more and more difficult to obtain every day. Therefore, it's imperative to make existing apparatus last as long as possible.

Worn or damaged Airco equipment should never be scrapped before it is examined at an Airco Apparatus Repair Station. In most cases it will be repairable—and returned to you, quickly, as good as new.

Avail yourself of Airco's national repair service — staffed by company trained and supervised men. Regardless of your location, there's an Airco Station in your area.

Air Reduction

General Offices: **60 EAST 42nd ST., NEW YORK, N. Y.**

IN TEXAS

MAGNOLIA-AIRCO GAS PRODUCTS CO.

General Offices: HOUSTON, TEXAS

OFFICES IN ALL PRINCIPAL CITIES

AIRCO WILSON

OXYGEN IS PRODUCTION — *Don't Waste it!*

OLD 1061 AGAIN GOES TO WAR!

Old 1061—4-6-2 Pacific locomotive—squatting at the far end of Track 13 in the holdover yard wasn't as dead as she seemed to be.

She was recalling her early days of pomp and glory when—all dolled up in flags and flowers—she highballed a varnished wartime Special amid blaring bands, speeches, hurrahs, and fireworks.

She's had her days of sadness, too, when—wrapped in strips of black and white—she slowly rolled a presidential funeral train past assemblies of silent, mourning citizens.

After that war, 1061 whipped long strings of freight cars around mountain curves while main-line kids shouted and waved encouragement.

Familiar voices aroused 1061 from her daydreaming.

"She's not much to look at," the Master Mechanic decided, "but—with fewer locomotives than we had in 1918 to haul a much bigger world-war business—we'd better try to put her back in service."

"The shop's sure been robbing her since she came out to this junk-heap," the General Foreman admitted.

"The birth certificate, on the builder's plate, shows she was born in 1901," the Yardmaster remarked ruefully.

But they hooked on a pony switcher and gingerly nursed her into the shops. Thanks to a long-time greasing given the running gear, 1061's joints were in good condition. But she hadn't been indoors for eight weathering years. Hence, from pilot and smokestack to cab and tender, she was a grimy, rusty, railroad relic.

The pit gang welcomed 1061 with lusty lingo understood only by locomotives. Machinists, boilermakers, electricians, pipe fitters, and welders explored and tested thousands of parts—supplying several missing ones with inexpensive but serviceable substitutes.

They examined the flues, replaced some of them, pumped water into the boiler, gave it a hydrostatic test, built a fire on the grates, dressed her in a smart blue-black jacket, administered a few dashes of red paint as a tonic.

Loco 1061 began to purr, then hum, then sing. "Good old gal!" the pit gang chorused. "You're back on the rails for another war!"

Restored, rejuvenated, reconditioned, reclaimed, she steamed out of the shops and hit the main line, whistle screeching, bell clanging, exhaust chuffing—kicking the miles from under her whirling wheels.

As she whizzed along, hauling troops, trucks, jeeps, and other war tonnage—smoke proudly pluming from her stack—she leaped for joy. A new crop of kids waved and shouted encouragement.

But 1061 was not the only Old Timer who had joined the Loyal Locomotives of Other Wars, brought back into their country's service by the determination, ingenuity, and energy of America's motive-power men.

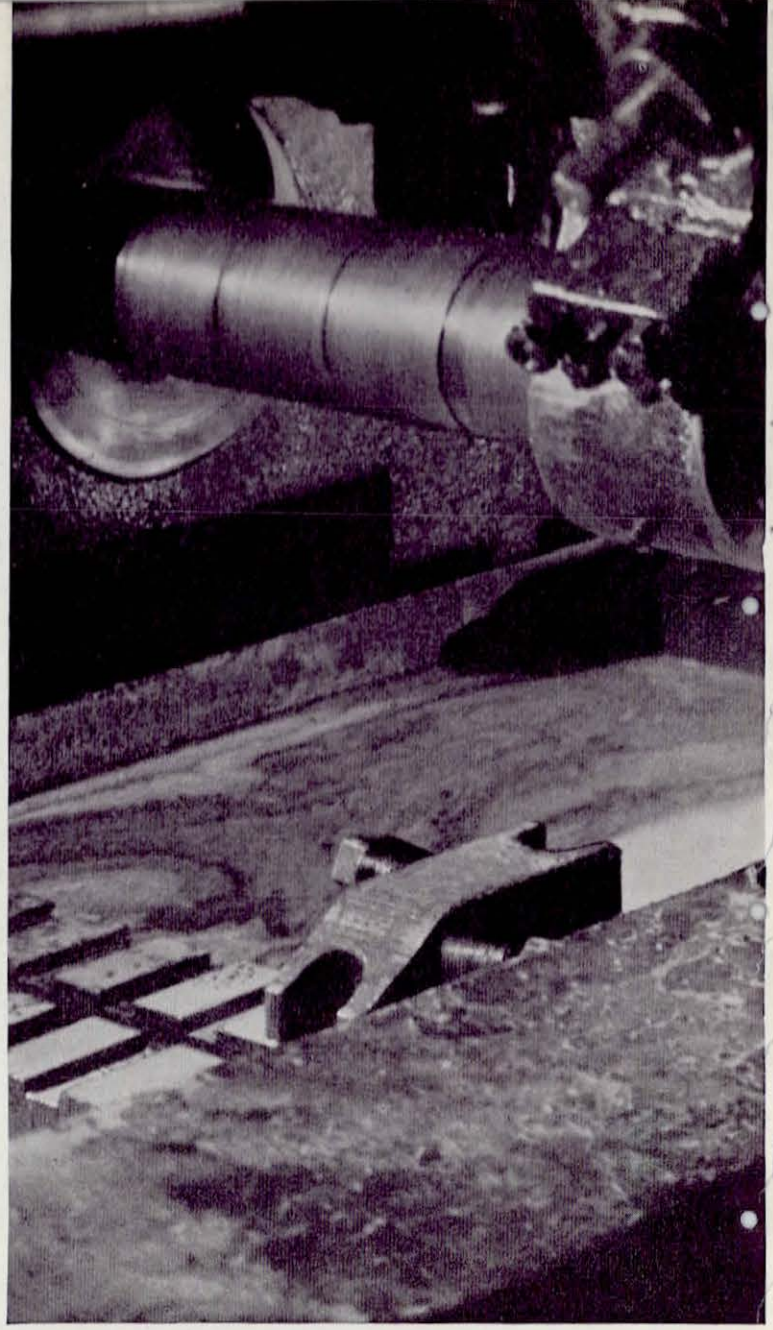
—The Trackwalker

AMERICAN LOCOMOTIVE • GENERAL ELECTRIC

114-36-9500

Steel Chips

MORE PRECIOUS THAN GOLD!



Those chips from the milling, drilling, turning or similar machining of alloy steel are valuable—*extremely valuable.* They contain nickel, chromium, molybdenum or other elements essential to the production of strong, tough alloy steels. And these alloying elements are so urgently needed in war production, so scarce today, that unless you use them for high-priority applications, you cannot buy them for their weight in gold.

SAVE THOSE CHIPS—also turnings, borings, shearings and all other scrap you may develop while working alloy steels. *AND KEEP EACH GRADE SEPARATE* from other grades—with each lot correctly labeled with its SAE, AISI, NE or other grade number.

Why do this? To enable steel manufacturers to put your alloy steel scrap to work *QUICKLY* in the making of more alloy steels—without loss of the vital alloying elements already in the scrap.

If you do not segregate your alloy steel scrap, it will mean just this: (1) Alloys in the scrap may be lost or wasted because the alloy content is unknown when the scrap is charged into the furnace; or (2) The heat of steel may be ruined; or (3) The scrap must be melted down, poured into ingots and analyzed. This ties up skilled furnace crews and furnaces which should be turning out finished steel. Chemists and metallurgists must waste time analyzing the ingots to determine what and how much alloys they contain. Then the scrap ingots must be charged into the furnace again when the desired analysis is being produced. This is enemy-aiding waste—of man hours, of equipment capacity, of materials.

Don't wait until tomorrow. Issue your order *TODAY* to segregate all alloy steel scrap *at the machine—keep each grade separate* from other grades—*label it*—and *return it promptly.* Remember: Those chips now are more precious than gold.

★ ★ ★

To help you in your efforts, we have prepared poster-size wall cards giving the official W. P. B. classification of alloy steel scrap, together with suggestions for segregation and marking. How many would you like for your shops? We'll mail them without delay.

This Advertisement Sponsored by

REPUBLIC STEEL CORPORATION

Alloy Steel Division Sales Offices: Massillon, Ohio • General Offices: Cleveland, Ohio

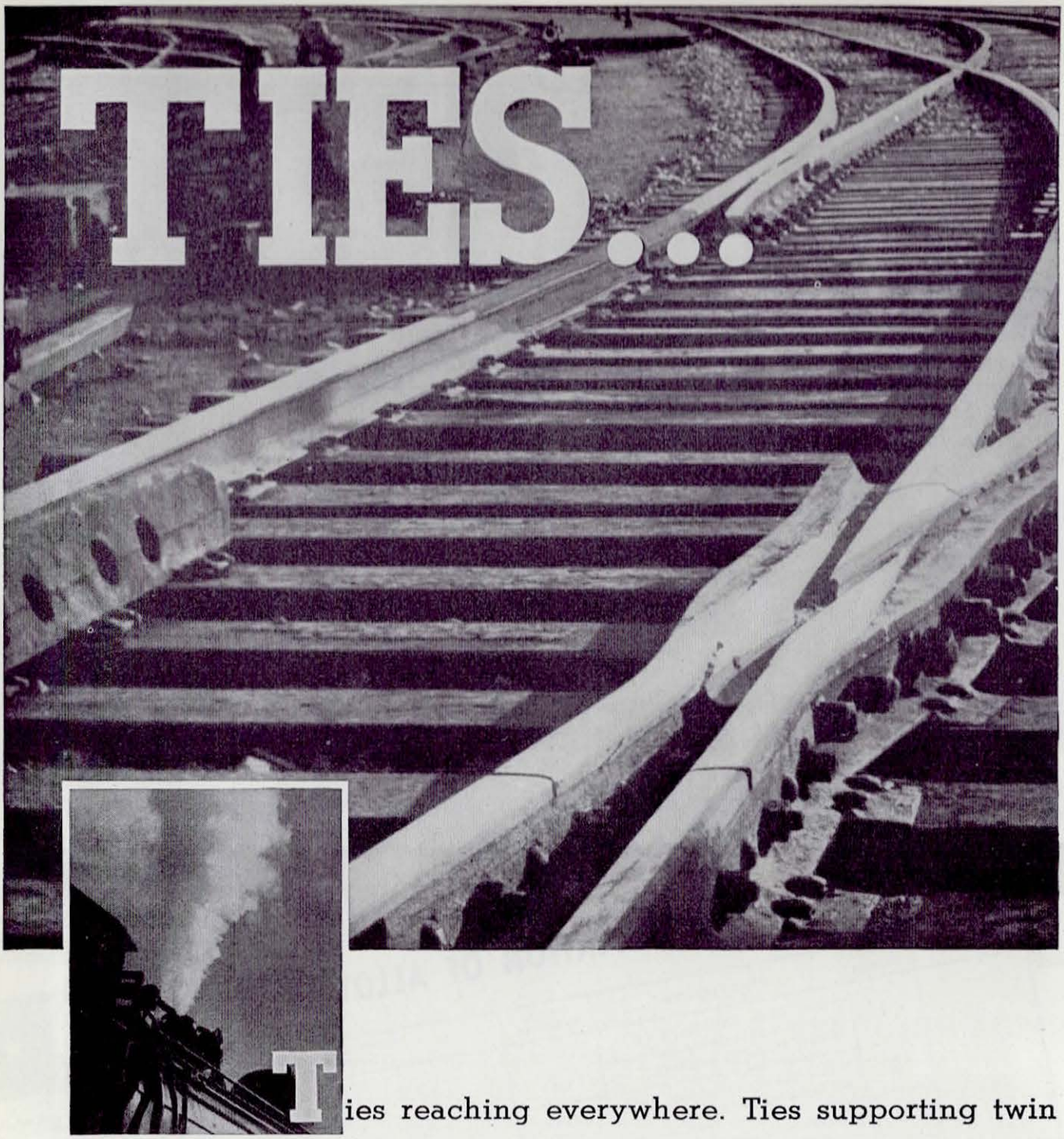
Berger Manufacturing Division • Culvert Division • Niles Steel Products Division • Steel and Tubes Division
Union Drawn Steel Division • Truscon Steel Company • Export Department: Chrysler Building, New York, New York

In Cooperation with the U. S. Government's Salvage Campaign

W. P. B. CLASSIFICATION OF ALLOY STEEL SCRAP

	CLASSIFICATION	DESCRIPTION	TYPICAL EXAMPLES
Alloy Constructional Steels	1	Nickel Steels (Nickel 1%-2% inclusive) Nickel-Chromium Steels (Nickel 1%-2.25% inclusive)	2100 3100 3200
	2	Nickel Steels (Nickel over 2% to and including 5.25%)	2300 2500
	3	Nickel-Chromium Steels (Nickel over 2.25% to and including 5.25%)	3300 3400
	4	Nickel-Molybdenum Steels (Nickel 1%-5.25% inclusive)	4600 4800
	5	Nickel-Chromium-Molybdenum Steels (Nickel 1% and under)	8600, 8700 8800, 8900
	6	Nickel-Chromium-Molybdenum Steels (Nickel over 1% to and including 5.25%)	4300
	7	Molybdenum Steels (Molybdenum .15%-.65% inclusive)	4000, 4100 8000, 8100 8200, 8300 8400, 8500
	8	Molybdenum Steels (Molybdenum over .65%)	Mn-Mo Bullet Core Steel
	9	Chromium Steels and Chromium-Vanadium Steels (Chromium .70%-1.75% Inclusive)	52100 5100 6100

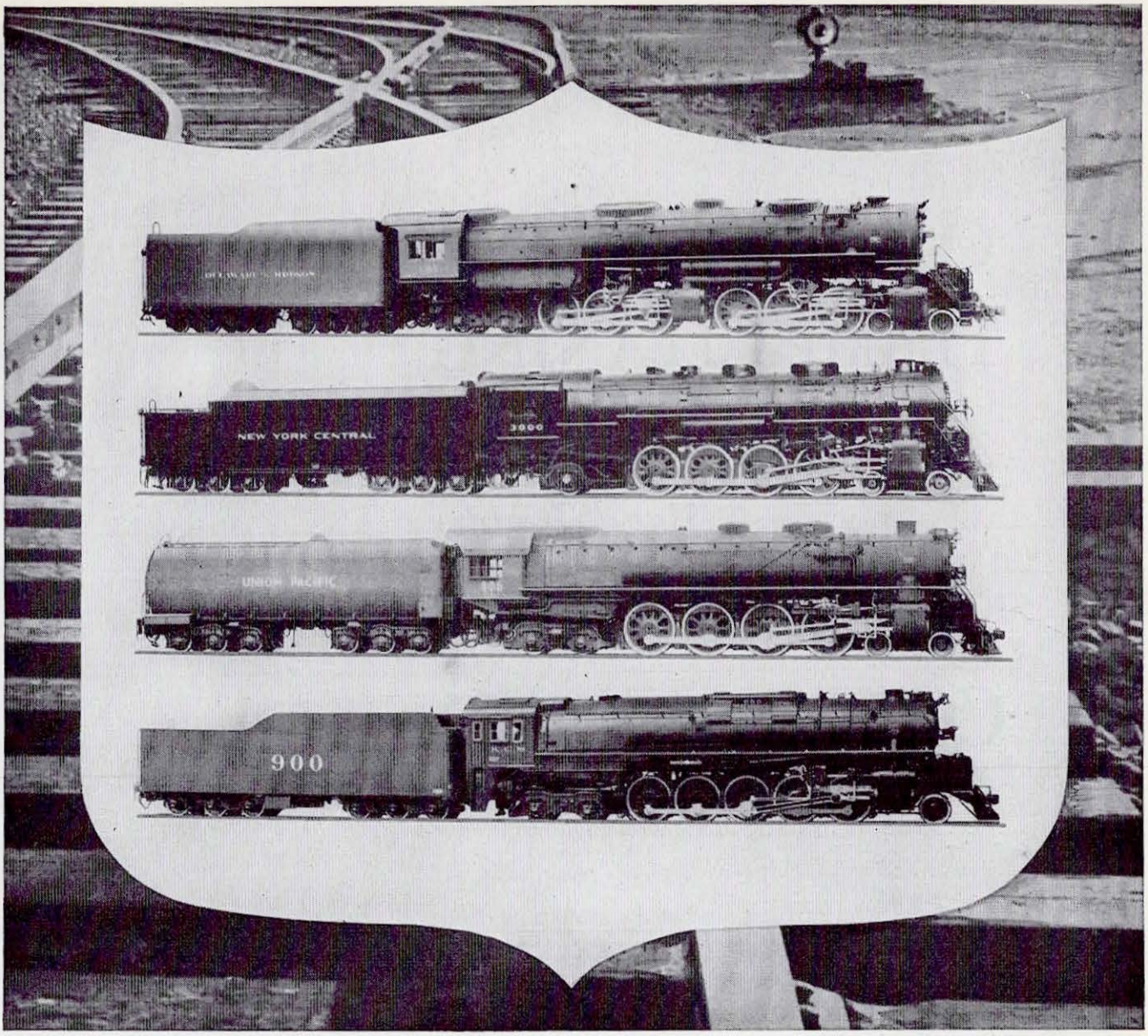
	CLASSIFICATION	DESCRIPTION	TYPICAL EXAMPLES
Alloy Tool Steels	10	Class A High Speed Steel (either alloy steel containing not less than .60% carbon and containing more than 3.0% molybdenum; or alloy steel containing not less than .60% carbon, containing 7.0% or less tungsten, and containing more than 3.0% molybdenum)	
	11	Class B High Speed Steel (alloy steel containing not less than .55% carbon and containing more than 12.0% tungsten)	
	12	Tungsten-bearing Hot Work Steels	
Corrosion and Heat-Resisting Alloy Irons and Steels	13	Chromium 10%-14% inclusive	
	14	Chromium over 14% to and including 18%	
	15	Chromium over 18%	
	16	Chromium 16%-20% inclusive and Nickel 8%-10% inclusive	
	17	Chromium over 20% to and including 30% and Nickel over 10% to and including 20%	
	18	All other grades of corrosion and heat resisting alloy irons and steels containing chromium, nickel, molybdenum, cobalt, or copper	



Ties reaching everywhere. Ties supporting twin streaks of steel. Ties that carry the SKF-equipped trains of almost all American and Canadian railroads. Ties that enable trains to rush men and raw materials to the mills... from the mills to the factories... from the factories to the fighting fronts of the world.

And yet, in quite another sense, there's something that's as vital to modern high-speed railroading. For *antifriction bearings* give the stability to moving parts that rolling stock must have to maintain its continuity of service.

It is well to remember that SKF pioneered in the application of antifric-

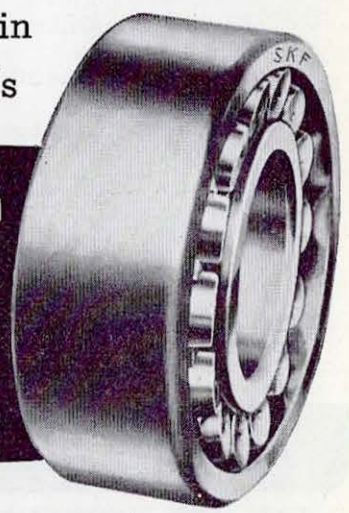


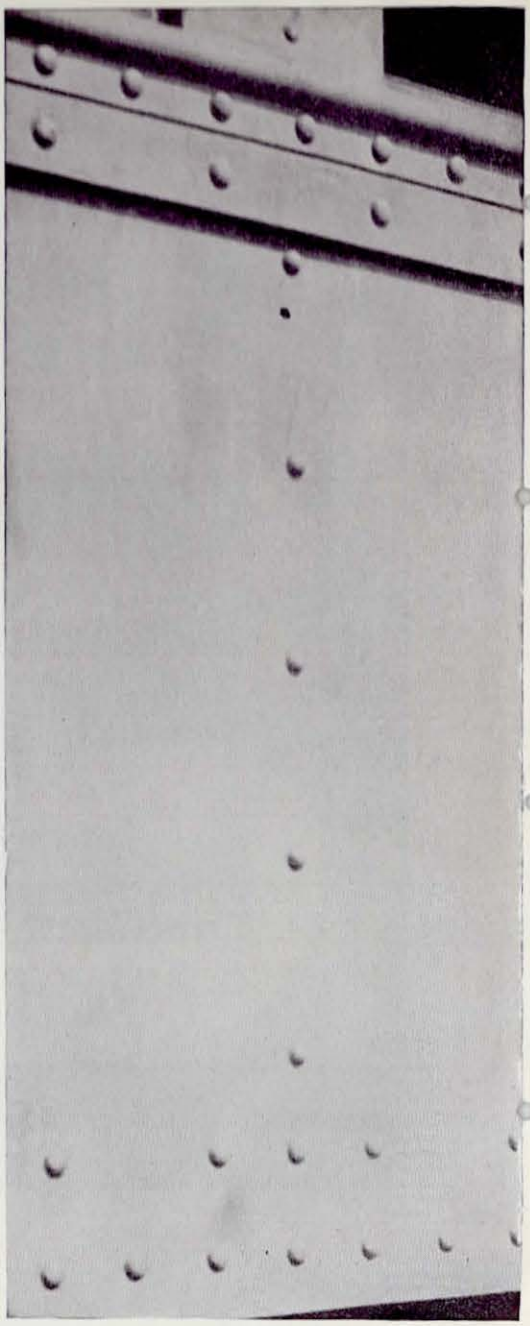
tion bearings on car journals in 1920; on tenders in 1924; on boosters in 1924; on gas-electric cars in 1924; on engine trucks in 1926; on driving axles in 1930; on side rods in 1934. That's why so many trains that are getting things done today are doing it on SKF Bearings.

5180

SKF INDUSTRIES, INC.,
PHILADELPHIA, PENNA.

SKF
BALL AND ROLLER
BEARINGS





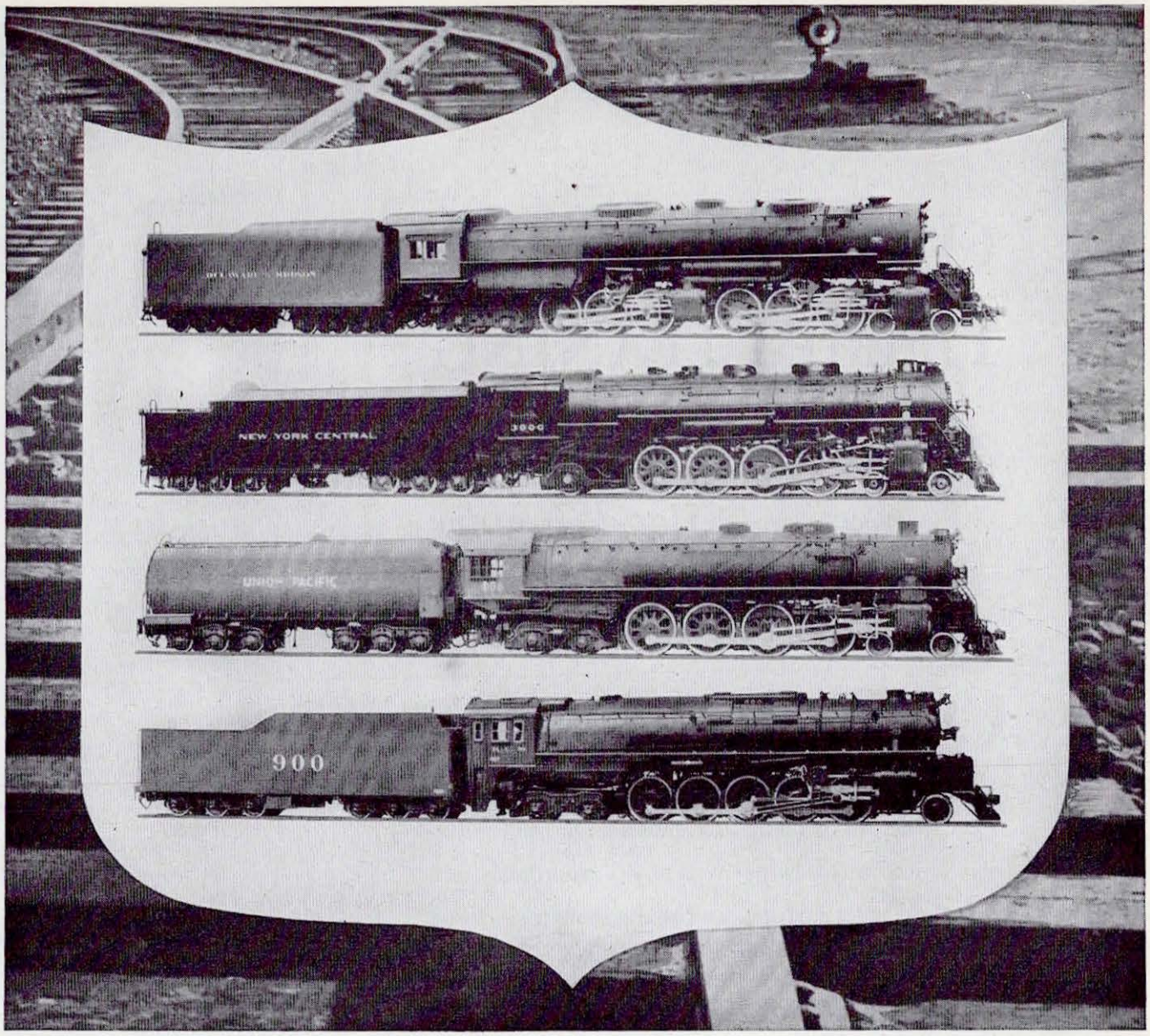
OXY-ACETYLENE FLAME-CLEANING

Makes Paint Go On Faster . . . . Bond Tighter . . . and Last Longer

OXY-ACETYLENE flame-cleaning with Oxweld equipment preparatory to the painting of coaches, cars, bridges, tanks, and many other types of steel structures is being used increasingly. This effective procedure quickly removes loose paint, scale, and rust from steel surfaces, and at the same time drives out surface moisture. After the steel has been flame-cleaned and then wire-brushed, it should be painted immediately. The protective coating then spreads more evenly and quickly on the warm, dry surface, and a tighter bond is effected. As a result, the major causes of subsequent corrosion and paint flaking are eliminated. This procedure is used to advantage on new equipment and structures before the initial protective coating is applied, and also on equipment and structures that are being prepared for repainting.

SINCE 1912—THE COMPLETE OXY-ACETYLENE

The word "Oxweld" is a registered trade-mark.



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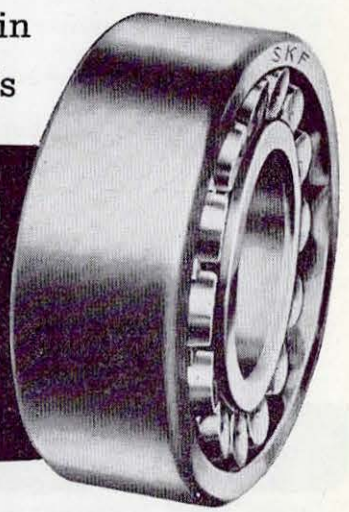

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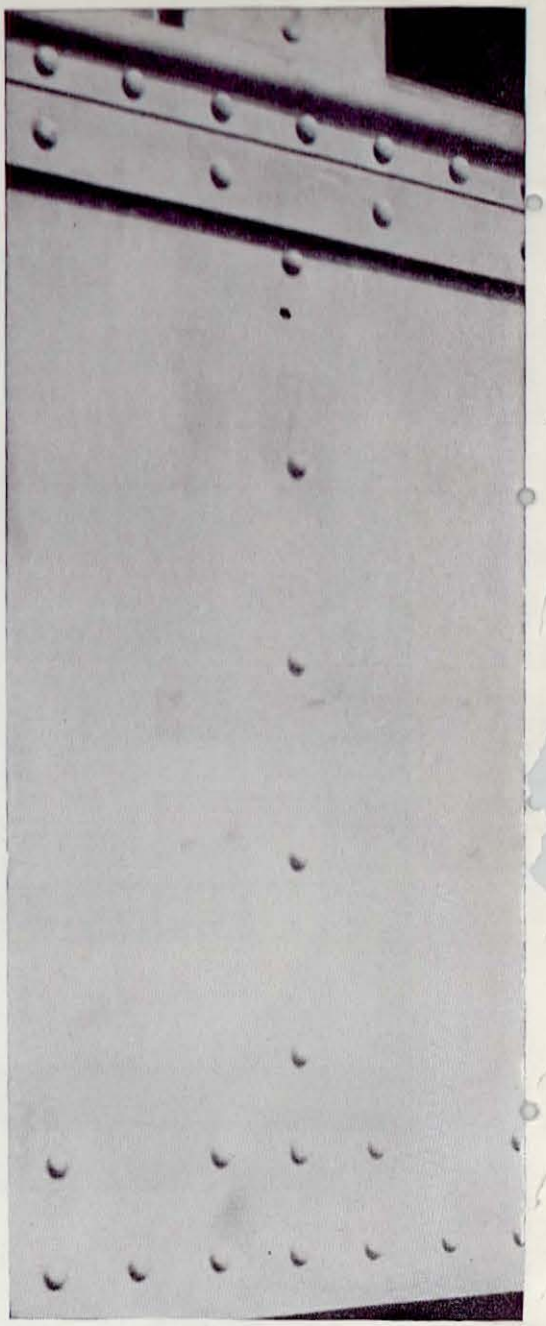

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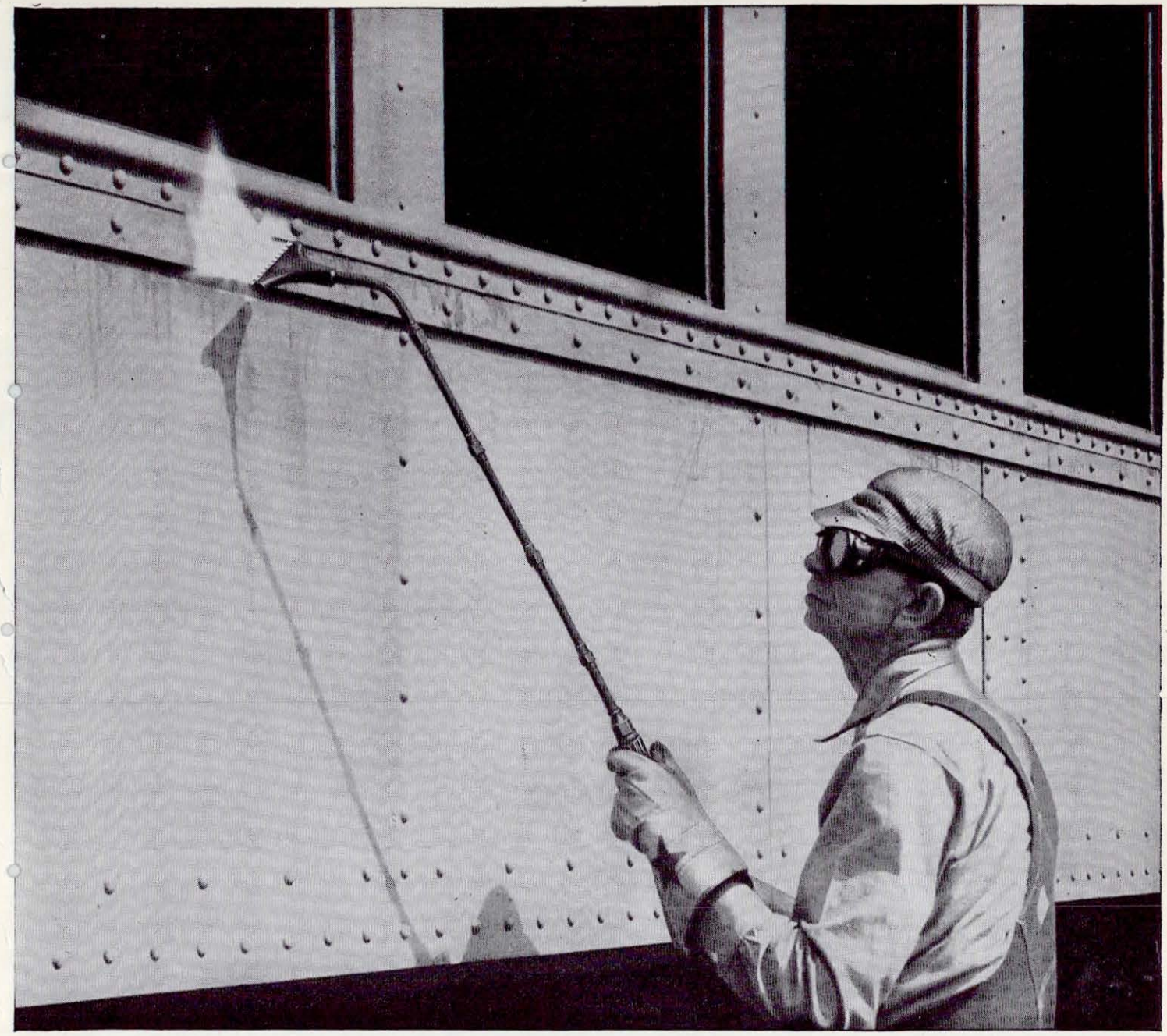
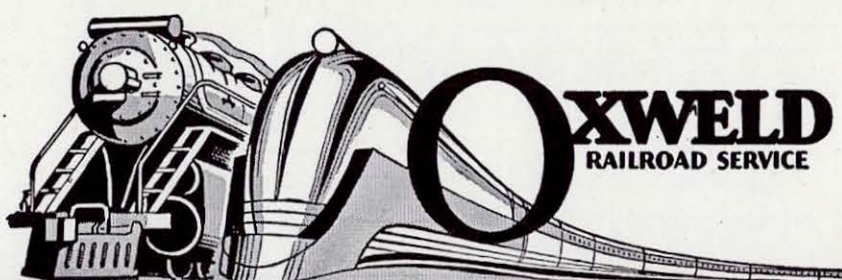


THE OXWELD RAILROAD SERVICE COMPANY

Unit of Union Carbide and Carbon Corporation

UCC

Carbide and Carbon Building Chicago and New York



SERVICE FOR AMERICAN RAILROADS

For all-the-Time

FIRST AID CHART FOR YEAR-ROUND OPERATION

	POINTS TO CHECK	WHEN TO SERVICE	PROPER METHOD
	MECHANICAL SYSTEMS		
GUARD FREON—it's easy to lose, hard to replace	Clean liquid and suction line strainers	Every year	Dip in a can of carbontetrachloride—NEVER use high pressure air
	Check all soldered and gasketed joints for leakage	Every month	Look for oil outside the system. An alcohol or Prestolite leak detector can also be used
	Check liquid level in receiver	Every month or oftener	If level is low or shows loss, check entire system for leaks
	Check operation of expansion valve	When noisy	Disassemble and clean out foreign matter that might cause it to stick
	Check solenoid valves	Every two to three months	See that solenoid is operating by actuating electrical control system
CHECK EVAPORATORS AND HEATERS—to prevent car odors	Clean exterior of coils	Every two to three months	Blow air through, and use small brush on accessible parts. Remove and dip in strong cleaning solution, at general overhaul
	Clean dirty air filters	Every one to three weeks	For throwaway type, put in new units. For permanent type, wash and dip in oil
	Clean drip pan	Every two or three months	Flush out with water and long handled brush
WATCH FANS—to prevent power waste	Lubricate motor bearings	Every six months	Put in just the right amount of grease. Examine fittings for damage and wipe clean so dirt does not enter bearings
	Check brushes for wear	Every month	Do not allow brushes to be worn down to absolute minimum before replacing. See that brushes are free to move in brush holders and surface has the polished finish that indicates good contact with commutator
	Clean commutator, fields and armature	Every four to six months	Use dry compressed air to blow out dirt—never use oil on commutator
	Clean fan wheels and interior of casing	Every four to six months	Blow out with compressed air and use a small brush
CHECK CONDENSERS—to prevent loss of cooling capacity	Clean exterior of coils	After each run or as often as possible	To melt grease and loosen dirt, clean with steam, NOT high pressure air
	Clean fan intake	After each run or as often as possible	Simply remove paper or debris drawn into fan intake screen
WATCH COMPRESSORS — unnatural noise means trouble	Check belt tension	During first week with new belts; every two or three months thereafter	Adjust just beyond point where "belt squeal" is eliminated. NEVER use old and new belts in one set
	Check oil in crankcase	Every two or three months	If oil has been lost, fill crankcase to proper level with refrigeration machine oil recommended by manufacturer
	Check compressor bearings, motor brushes, commutators, etc., as for Fan Motors above		
	WATER ICE SYSTEMS		
CHECK PIPING — to prevent loss of efficiency	Clean strainers	Every one or two months	Remove and flush out strainer with water
CLEAN ICE BINS—to prevent waste of ice	Flush out ice bins and overflow	After every run	Keep free of accumulated debris and dirt
	Scrub ice bins	Every one to two months	Scrub down interior surfaces to remove slime and fungus
	Paint ice bins	When winter operation begins	Apply a coat of asphaltum or other corrosion-resistant paint to inside
CHECK PUMP UNITS—to prevent waste of power	Check gland packing	Every four to six months	Tighten gland nut just enough to prevent leakage
	Check bearings, motor brushes, commutators, etc., as for Fan Motors in mechanical systems, above		
CHECK ICE WATER AND HEATING COILS — to prevent car odors	*Clean coils, filters, drip pans as for Evaporator and Heaters, in mechanical systems, above*		

ENLARGED COPIES OF THE ABOVE CHART *suitable for wall mounting in air conditioning maintenance shops will be gladly furnished on request. They should be extremely helpful to any railroad in maintaining an authoritative and regular program of equipment inspection and servicing*

An Air Conditioning . . . TO PROLONG

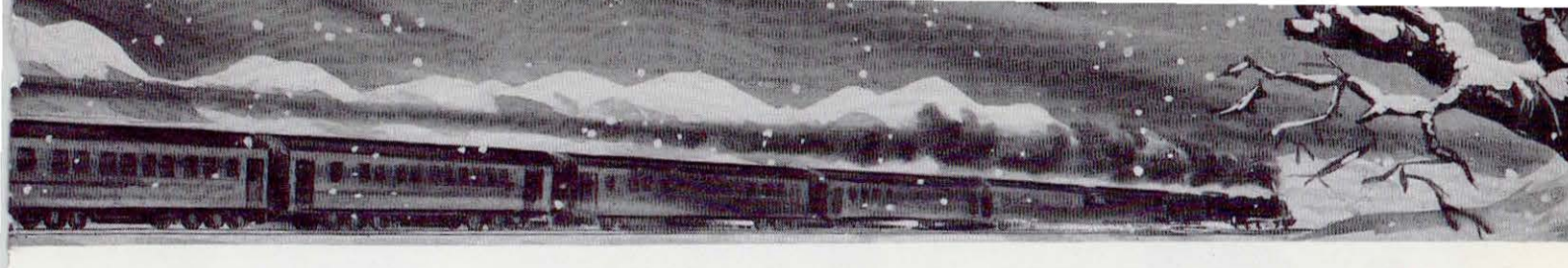
MUCH as we'd like to, Sturtevant cannot manufacture any new railway air conditioning equipment for you—for the duration. We can, however, continue emergency repairs and work together to keep America's present equipment operating at top efficiency.

It's a big job. You may not have the time or the manpower to do all the inspection and preventive maintenance work necessary. So Sturtevant has pitched in to help you put the first things first . . . to simplify and standardize the most important jobs.

We offer you copies of the authoritative First Aid Chart (shown left) listing only the most vulnerable parts to be checked and the quickest and best methods of servicing. We offer you the Maintenance Tags (shown right) that remind service men of inspections and simplify procedure. And we offer the services of Sturtevant Railway Air Conditioning Engineers for any further help you need.

Here are the urgent reasons why you should get started utilizing this Sturtevant Maintenance Program at once. Only by *regular inspections* can you guard against emergencies and minimize repair work. Only by *proper maintenance* can you prolong the life of valuable equipment and keep air conditioned cars on the job with the least time and effort.

Every maintenance man on your line should have a copy of the First Aid Chart. Every passenger car system should carry one of the Sturtevant Maintenance Tags. And they will—as soon as you tell us the quantities of each required.



AND RIGHT NOW!

Maintenance Program that busy or inexperienced men can use

LIFE OF EQUIPMENT, SAVE TIME AND SIMPLIFY WORK

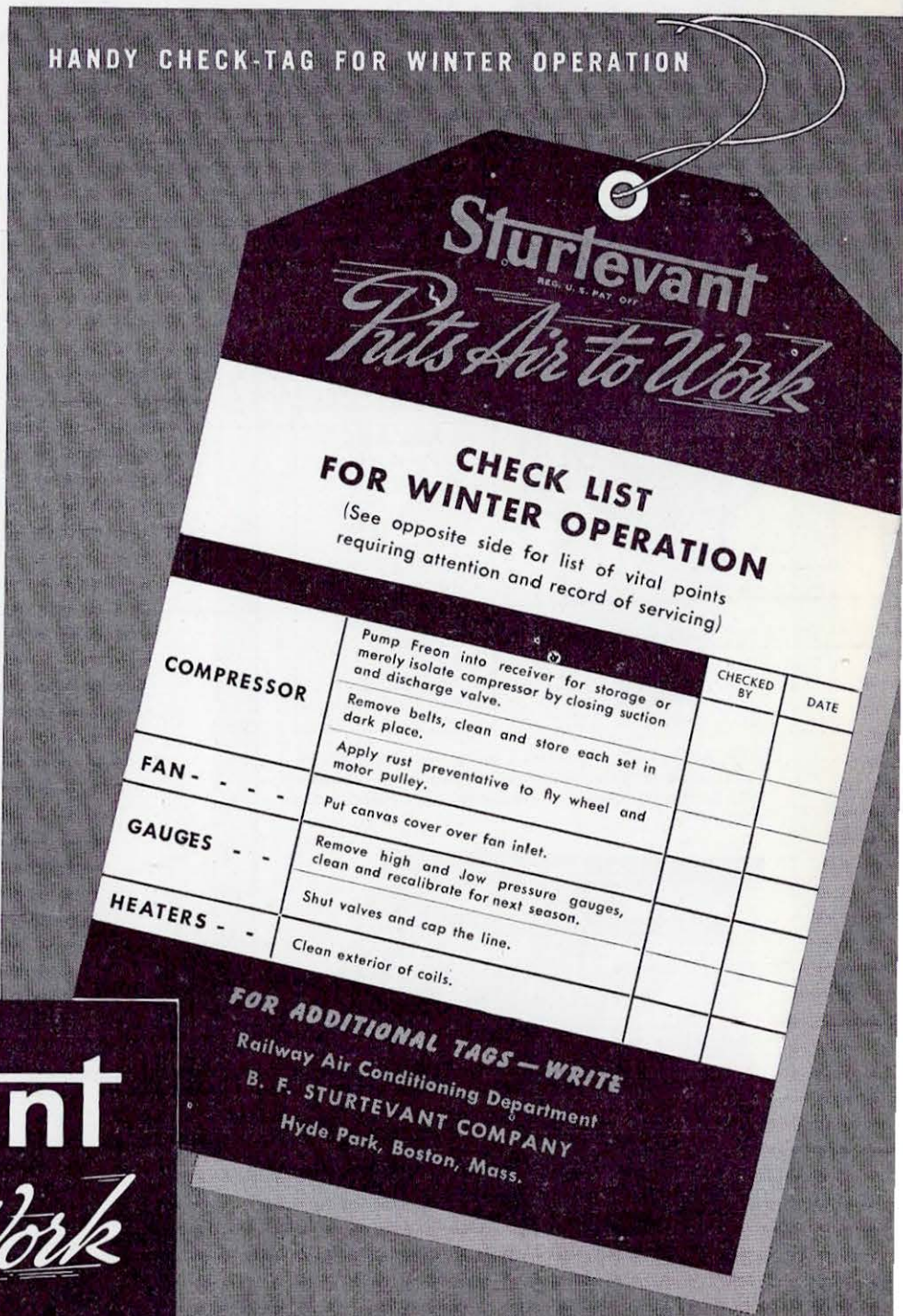
Your men are involved now, or should be soon, in the work of preparing air conditioning equipment for winter operation. To keep valuable material and equipment in condition until next Spring when the refrigeration end is put back into service, a few simple but important precautions *must* be observed.

Freon should be pumped into receiver for storage or compressor isolated by merely closing suction and discharge valve; compressors prepared for the lay-off period; gauges removed, cleaned and recalibrated for next season. A Sturtevant Maintenance Tag, tied to the equipment, will check up on these and other vital jobs, make your work a lot easier, help assure that every unit is cared for properly and promptly.

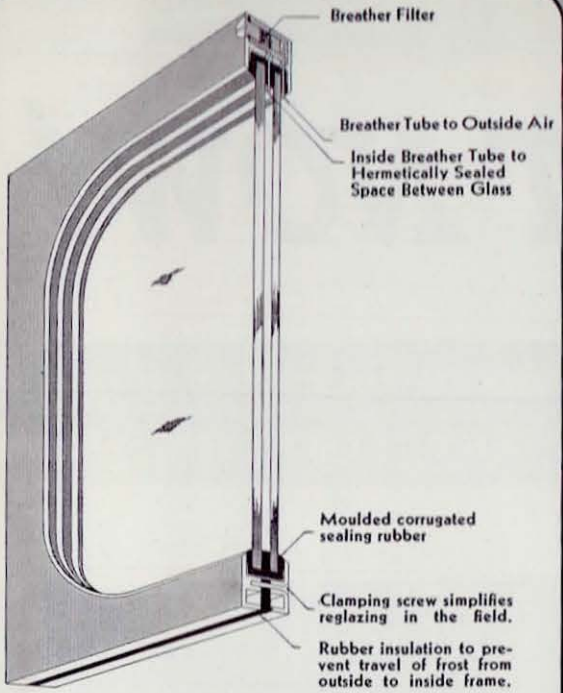
On the reverse side of the tag are reminders and space for recording the year-round checkups that are explained in detail on the First Aid Chart. Be sure to get a supply of these tags, one for each air conditioned car you operate. We will send the quantity you require by return mail. For prompt action, without obligation of course, write today to:

B. F. STURTEVANT COMPANY
Railway Air Conditioning Division
HYDE PARK, BOSTON, MASS.

HANDY CHECK-TAG FOR WINTER OPERATION

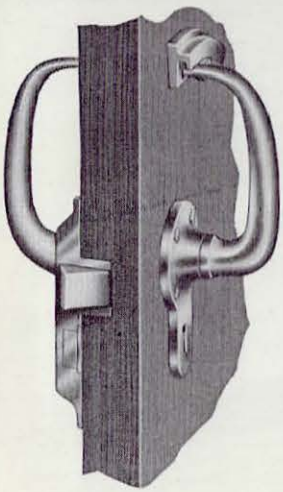

Sturtevant
REG. U. S. PAT. OFF.
Puts Air to Work
CHECK LIST
FOR WINTER OPERATION
(See opposite side for list of vital points requiring attention and record of servicing)
COMPRESSOR
Pump Freon into receiver for storage or merely isolate compressor by closing suction and discharge valve.
Remove belts, clean and store each set in dark place.
FAN - - - -
Apply rust preventative to fly wheel and motor pulley.
Put canvas cover over fan inlet.
GAUGES - -
Remove high and low pressure gauges, clean and recalibrate for next season.
HEATERS - -
Shut valves and cap the line.
Clean exterior of coils.
CHECKED BY
DATE
FOR ADDITIONAL TAGS—WRITE
Railway Air Conditioning Department
B. F. STURTEVANT COMPANY
Hyde Park, Boston, Mass.

Sturtevant
REG. U. S. PAT. OFF.
Puts Air to Work


Breather Filter
Breather Tube to Outside Air
Inside Breather Tube to Hermetically Sealed Space Between Glass
Moulded corrugated sealing rubber
Clamping screw simplifies reglazing in the field.
Rubber insulation to prevent travel of frost from outside to inside frame.

ADLAKE "Breather" Sash

ADLAKE hermetically sealed, double-glazed "Breather" Sash for air conditioned cars. Permits proper air adjustment between glasses during temperature or altitude changes, thus assuring clear visibility at all times. Requires **NO** servicing or special drying compounds.

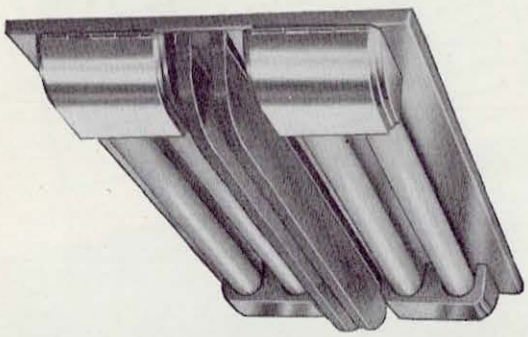


ADLAKE Luggage Racks and Hardware have modern trim lines and are designed to blend in with interior decorative schemes.

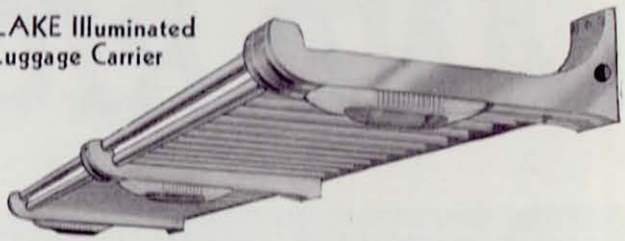
ADLAKE Products

- Window Sash
- Window Curtains and Fixtures
- Luggage Racks
- Lighting Fixtures
- Diaphragms
- Vestibule Curtains
- Hardware and Locks
- Relays
- Wash Stands
- Ash Receptacles

ADLAKE Lighting Fixtures provide adequate illumination without glare. Artistically designed and beautifully finished to harmonize perfectly with car decorative scheme.



ADLAKE Illuminated Luggage Carrier



ADLAKE PRODUCTS

Styled and Built to Win Passenger Goodwill

Greater Utility—Extra Style—Streamlined Beauty! That's the story of Adlake Products, for many years standbys with America's leading railroads.

Adlake Products are the result of the partnership of expert craftsmen and engineers, backed by 85 years of manufacturing experience. Adlake designers are keenly alert to new trends and quick to adopt those that are sound.

Adlake is doing its share in serving the war effort, yet offers you full advantage of its facilities to help you solve your passenger car problems, quickly, correctly and economically.

Just drop us a line for prompt and full details.

The Adams & Westlake Company

Chicago Elkhart, Indiana New York

A WAR JOB AND A WAUGH JOB

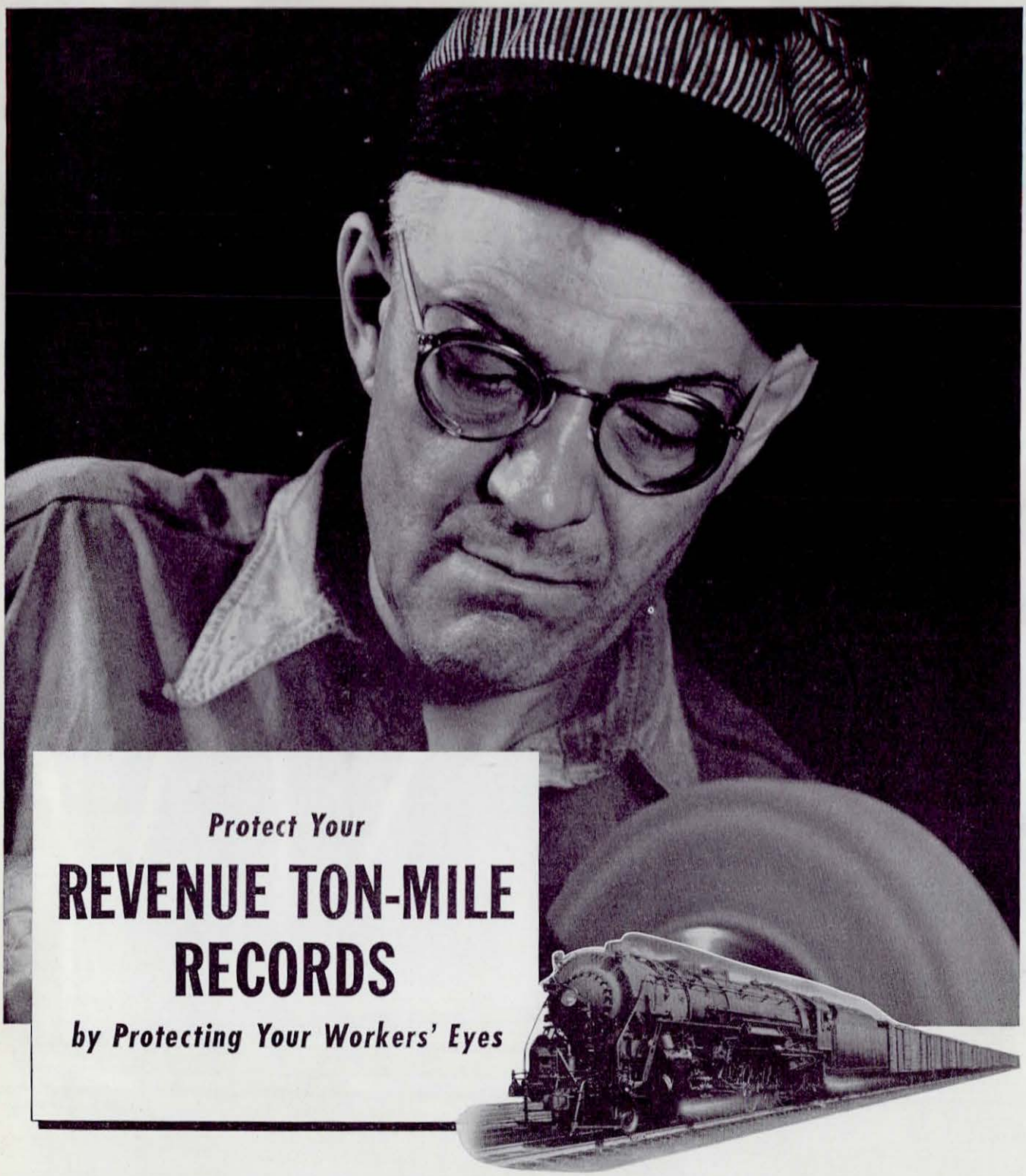
WAR rides the rails . . . rides at top speed despite 11,000 fewer freight locomotives and half a million fewer freight cars than in 1929 ★ High efficiency and fine equipment is the answer. Not the least important of this equipment are the more than 400,000 Waugh-Gould Draft Gears that day in and day out, month after month, are taking the buffets . . . cushioning impacts, and absorbing jerks and recoil . . . of high speed transport. ★ Waugh provides protection . . . provides added assurance that ladings arrive safely and on time.

WAUGH EQUIPMENT COMPANY • 420 LEXINGTON AVENUE • NEW YORK, N. Y.

Waugh salutes the railroads with a color film, "Railroads Speed the Freights." Lowell Thomas is the commentator. Should you wish to see or show this film, write on your business letterhead.

WAUGH ★ GOULD

Draft Gears



Protect Your

REVENUE TON-MILE RECORDS

by Protecting Your Workers' Eyes

The extra responsibility imposed upon railroads for handling the greatest amount of revenue freight traffic in the history of our country also increases the necessity of protecting workers' eyes. Now, of all times, you *cannot* run the risk of losing the services of irreplaceable men and of short-handing crews through eye injuries that scientifically-planned American Optical Company Goggles will prevent.

American Optical Goggles are scientifically designed to provide maximum possible protection, visibility and comfort. The complete line includes the proper goggles for every worker. Ask your American Optical Safety Representative to show these AO Goggles to you.

American Optical

COMPANY

SOUTHBRIDGE, MASSACHUSETTS

Standard . . . the **RIGHT NAME** *in forgings*

Good steel plus expert craftsmanship are responsible for Standard's 147 years of success in steel product manufacture. Today, as in the past, Standard's proven quality is being maintained in the many steel products being delivered to the railroads. Included among these are tires, steel wheels, springs, axles, crank pins, connecting rods, piston rods, driving wheel centers and many other parts made by Standard.

The dependability built into each product is safeguarded by rigid control of every phase of production from acid open hearth to finished forging. Expert chemists and metallurgists carefully analyze all materials . . . trained personnel takes pride in strict adherence to customer specifications . . . and Standard's modern plant offers the finest shop facilities for producing better steel products.

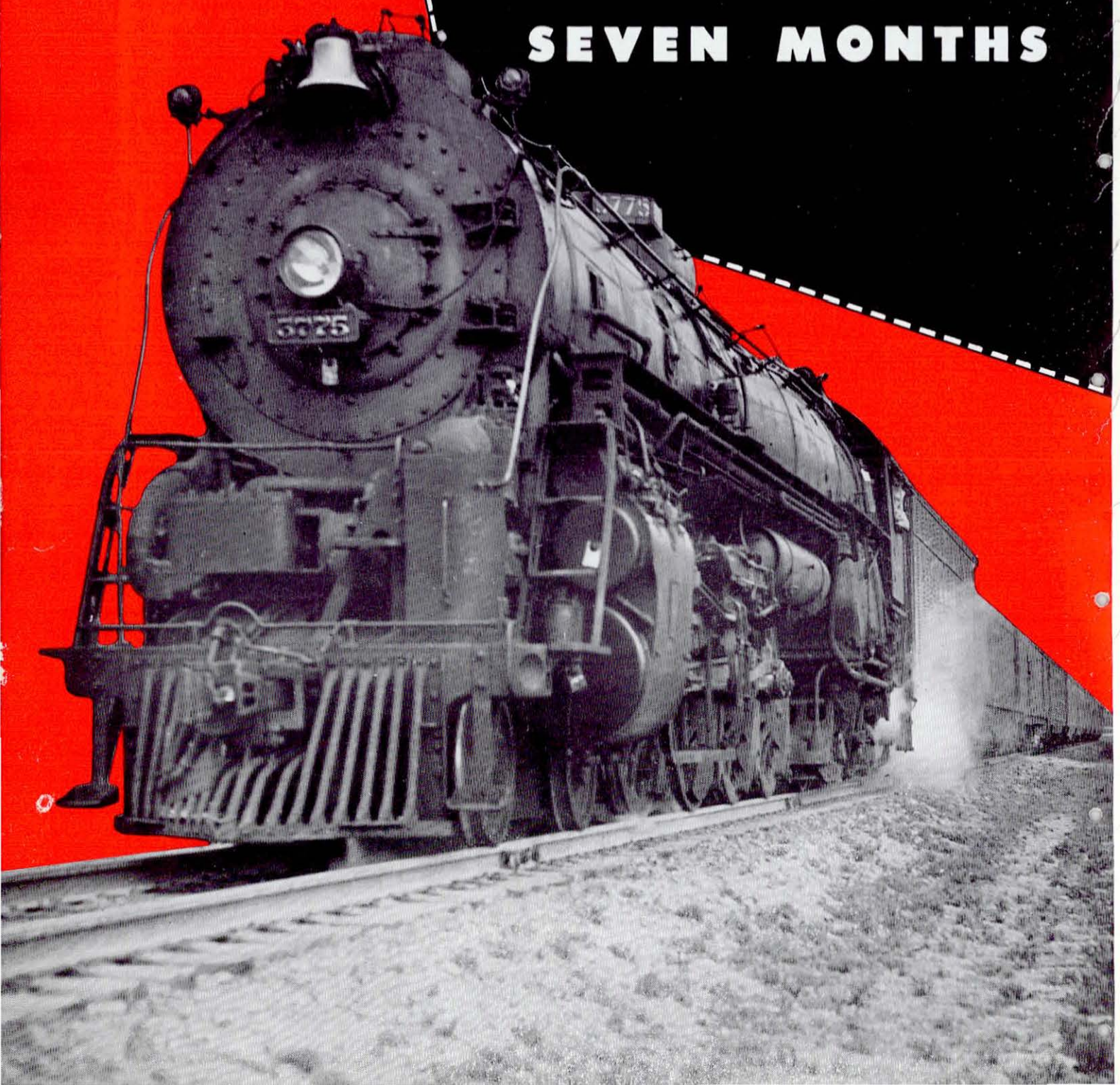
FORGINGS • ROLLED WHEELS • TIRES • CASTINGS • SPRINGS

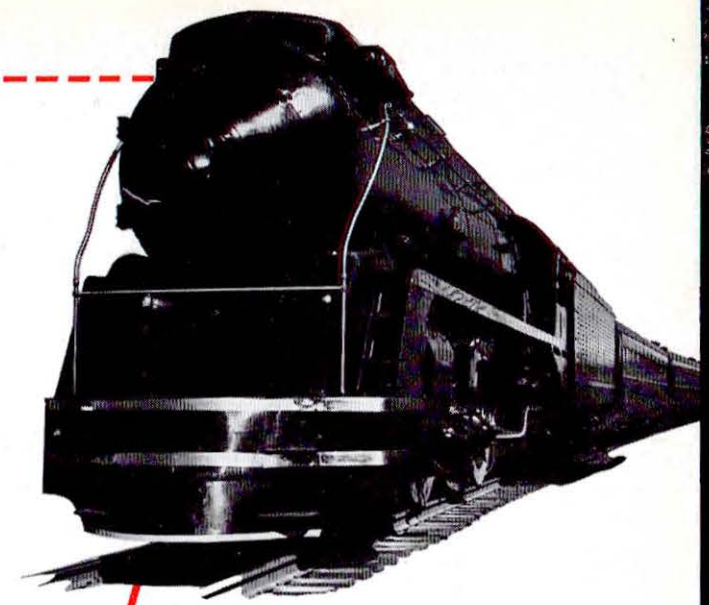
STANDARD STEEL WORKS

BLW THE BALDWIN GROUP

DIVISION OF
THE BALDWIN LOCOMOTIVE WORKS
PHILADELPHIA

25 BILLION PASSENGER-MILES IN SEVEN MONTHS

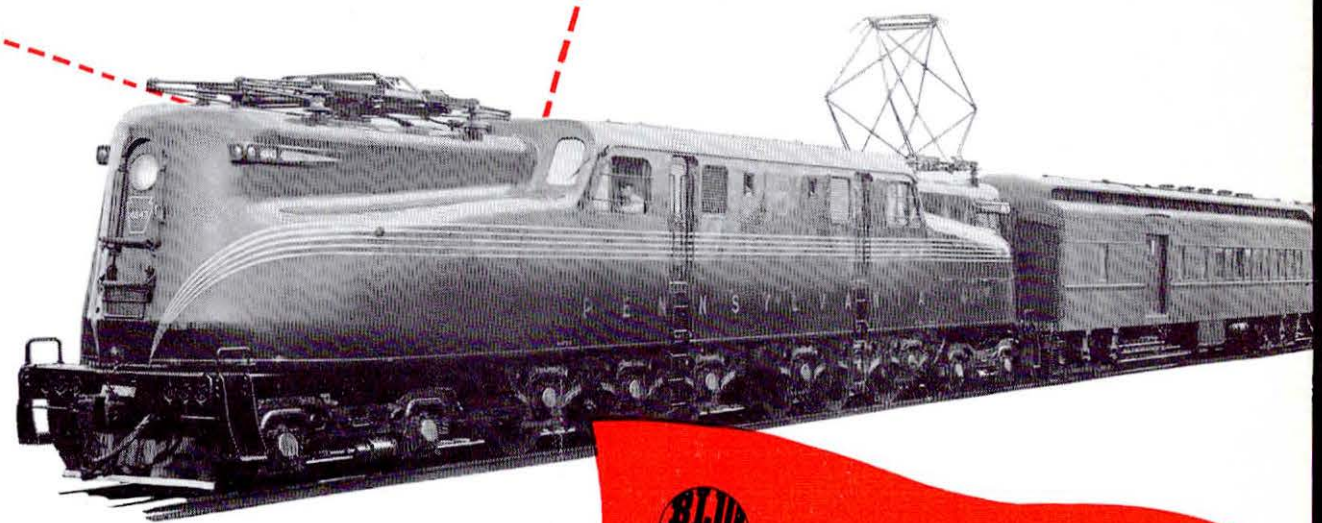




With America at war, the railroads have been faced with the staggering task of transporting millions of men in our armed forces, in addition to other essential passenger traffic.

In the first seven months of 1942, the number of revenue passengers carried one mile totalled 25,295,472,952, the highest record for any like period since the year 1920. Modern Baldwin locomotives, on railroads from coast to coast, have helped make this record possible.

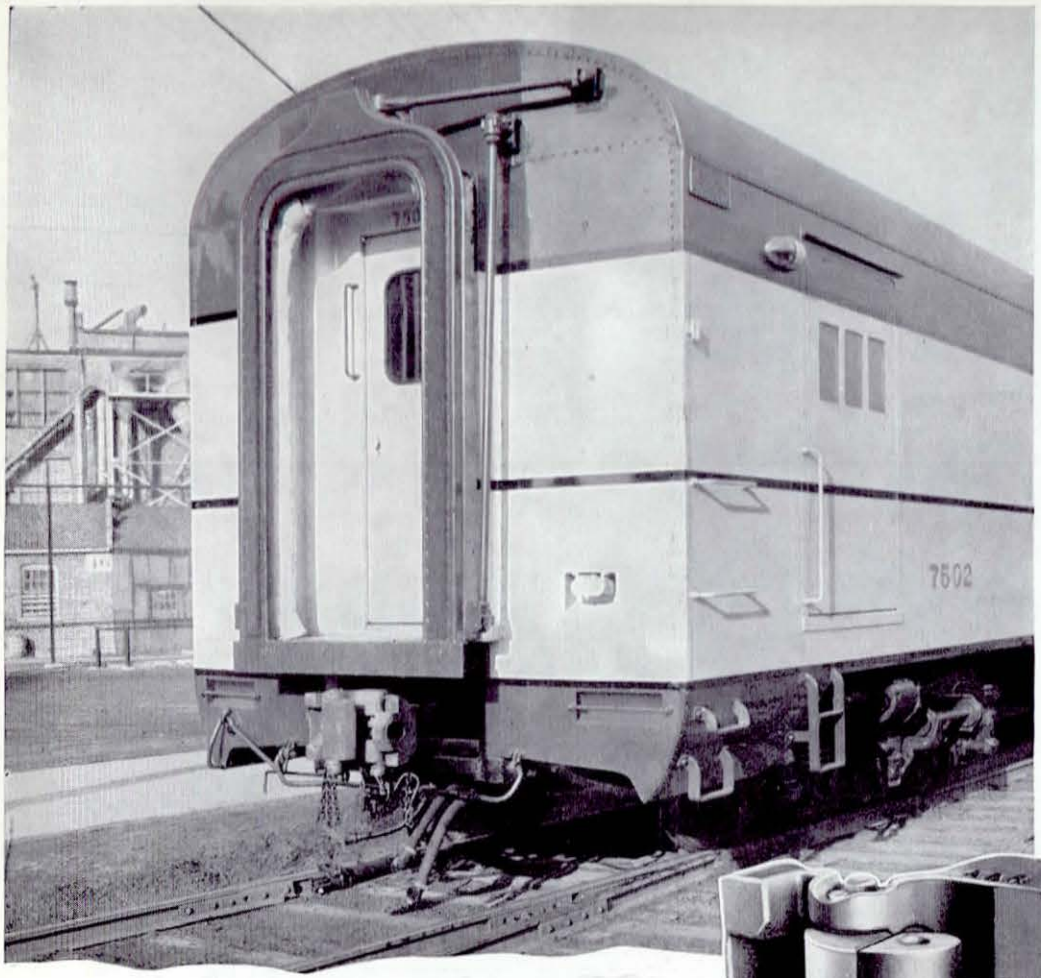
Famous passenger trains like *The Chief, The East Wind, Yankee Clipper, Broadway Limited, The General, North Coast Limited,* and many others are powered with modern Baldwin locomotives.



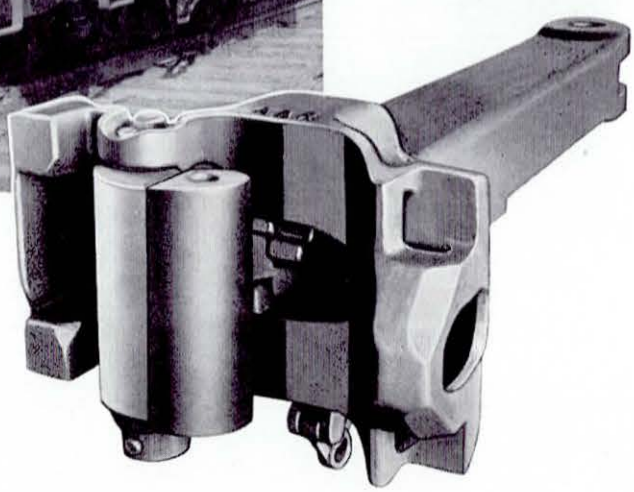
BLW THE BALDWIN GROUP

THE BALDWIN LOCOMOTIVE WORKS Philadelphia

BALDWIN SERVES THE NATION WHICH THE RAILROADS HELPED TO BUILD



NATIONAL



Smoother Riding And Greater Safety

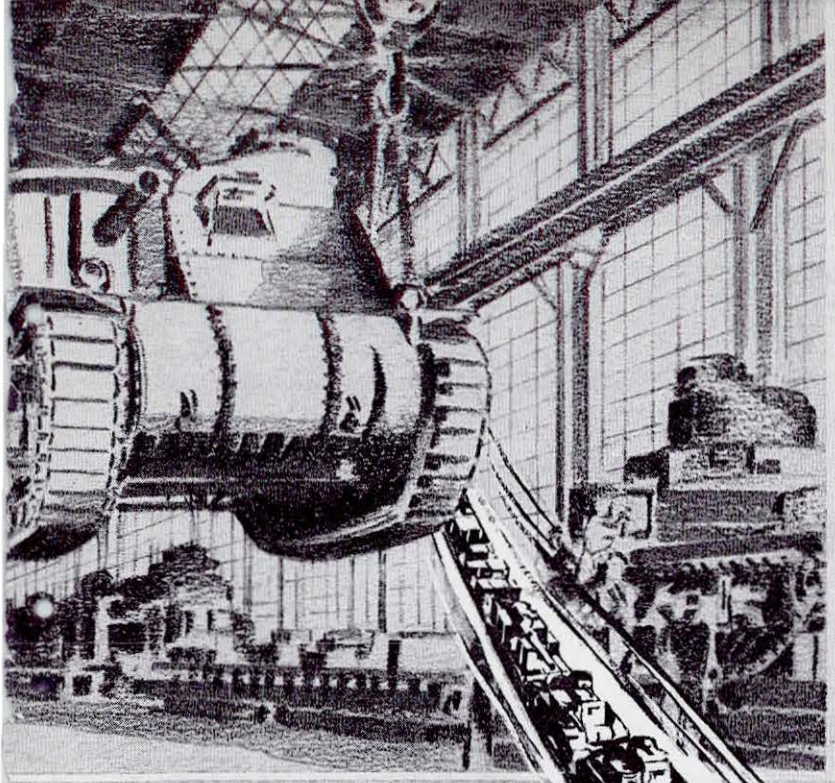
on cars equipped with

A.A.R. TIGHT LOCK COUPLERS

ELIMINATION of coupler slack reduces noise and assures smoother riding.

The interlocking design of A.A.R. Tight Lock couplers guards against telescoping and provides much greater safety.

NATIONAL MALLEABLE AND STEEL CASTINGS CO.
General Offices: CLEVELAND, OHIO
Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco
Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.



The RAILROADS CAN TAKE IT

SINCE DECEMBER 7th, and months before, American Railroads have gone all out to meet successfully every demand of our constantly increasing war program. More than five million soldiers have been transported an average of 1500 miles, new millions of civilians are riding the trains, over fifty billion ton-miles of freight hauled every month, with 7,000 fewer freight locomotives and one-half million fewer freight cars than were used in 1929. From coast to coast the railroads are speeding supplies to the fighting fronts.

STANDARD STOKERS

KEEP 'EM ROLLING AT TOP SPEED

OVER 15,000 locomotives are Standard Stoker equipped. That's one reason why our nation's railroads can take it!

THE STANDARD STOKER COMPANY, INC
NEW YORK • CHICAGO • ERIE •

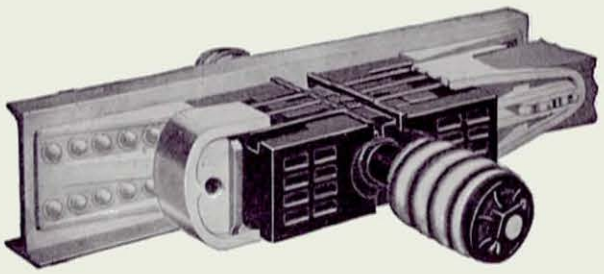
SSS

REG. U. S. PAT. OFFICE

FRICTION DRAFT GEARS

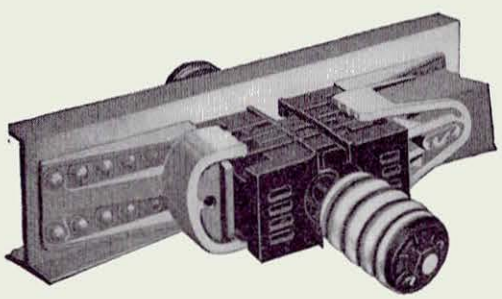
PROLONG CAR LIFE

To properly absorb buffing and pulling shocks and to minimize recoil, requires a device combining a frictional system and springs. Otherwise the springs would recoil with almost as great a force as the blow.



CARDWELL FRICTION DRAFT GEAR
TYPE L-25-SA
(Certified A.A.R.)

These facts were recognized many years ago and resulted in the A.A.R. setting up specifications which could only be met by draft gears combining the two essential qualities mentioned above.

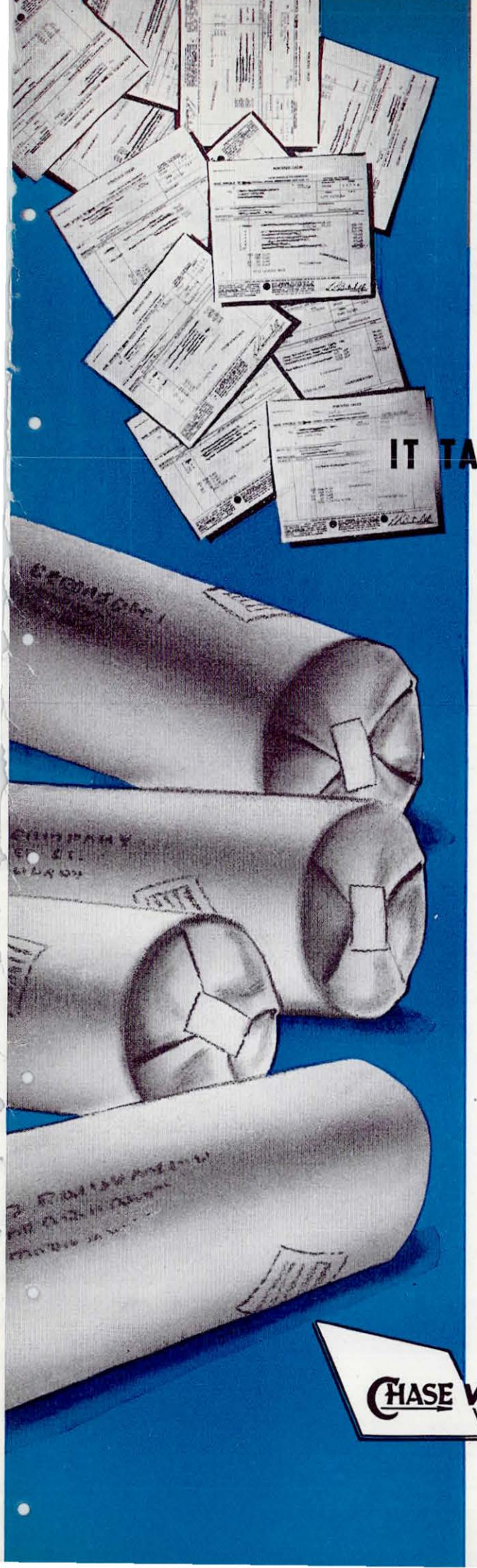


CARDWELL L-11-S DRAFT GEAR
(All parts of this gear except the housing are interchangeable with the L-25-SA)

Cardwell and Westinghouse Draft Gears meet A.A.R. specifications as well as all draft gear requirements for efficient train operation.

Their 2¾" travel controls the shock by means of high cushioning capacity plus absorption, with an ample factor of safety—consequently train slack is kept at a minimum.

CARDWELL WESTINGHOUSE CO., CHICAGO
CANADIAN CARDWELL CO., LTD., MONTREAL



No mere gesture of friendliness is the careful planning of production that has provided enough Chase looms "in reserve" to fill your 1943 upholstery orders for Chase Velmo.

IT TAKES MORE THAN GOOD-WILL TO FILL YOUR ORDERS!

You may not be buying new passenger cars for the duration . . . but with a more than ample supply of Mohair — "unfrozen" by the WPB — and the looms to weave it into Velmo, there need be no "shortage" of passenger comfort in your cars . . . nor need they be shabby.

When working out upholstery replacement needs, call on Chase experience and facilities to help you with samples, prices, delivery dates and some practical suggestions about economical war-time maintenance of upholstery.

We're on hand to help you maintain for the duration the high standard of comfort that will hold post-war passenger revenue at a profitable operating level.

CHASE VELMO

L. C. CHASE AND COMPANY • 295 Fifth Avenue, New York City

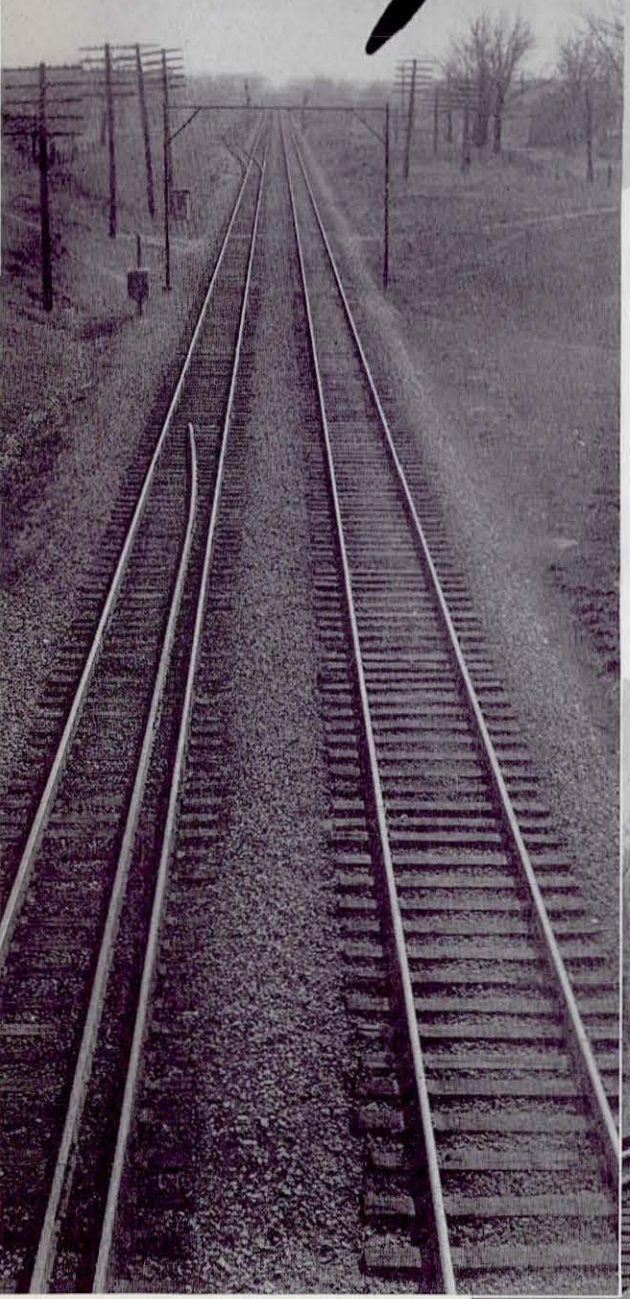
Sales Division of Sanford Mills • Offices: Boston, Detroit, Chicago, Los Angeles

Maximum Dependability

AMCRECO

CREOSOTED PRODUCTS

... ARE PROVIDING A SAFE, RELIABLE FOUNDATION FOR MORE TRAINS, HEAVIER LOADS AND FASTER SCHEDULES!



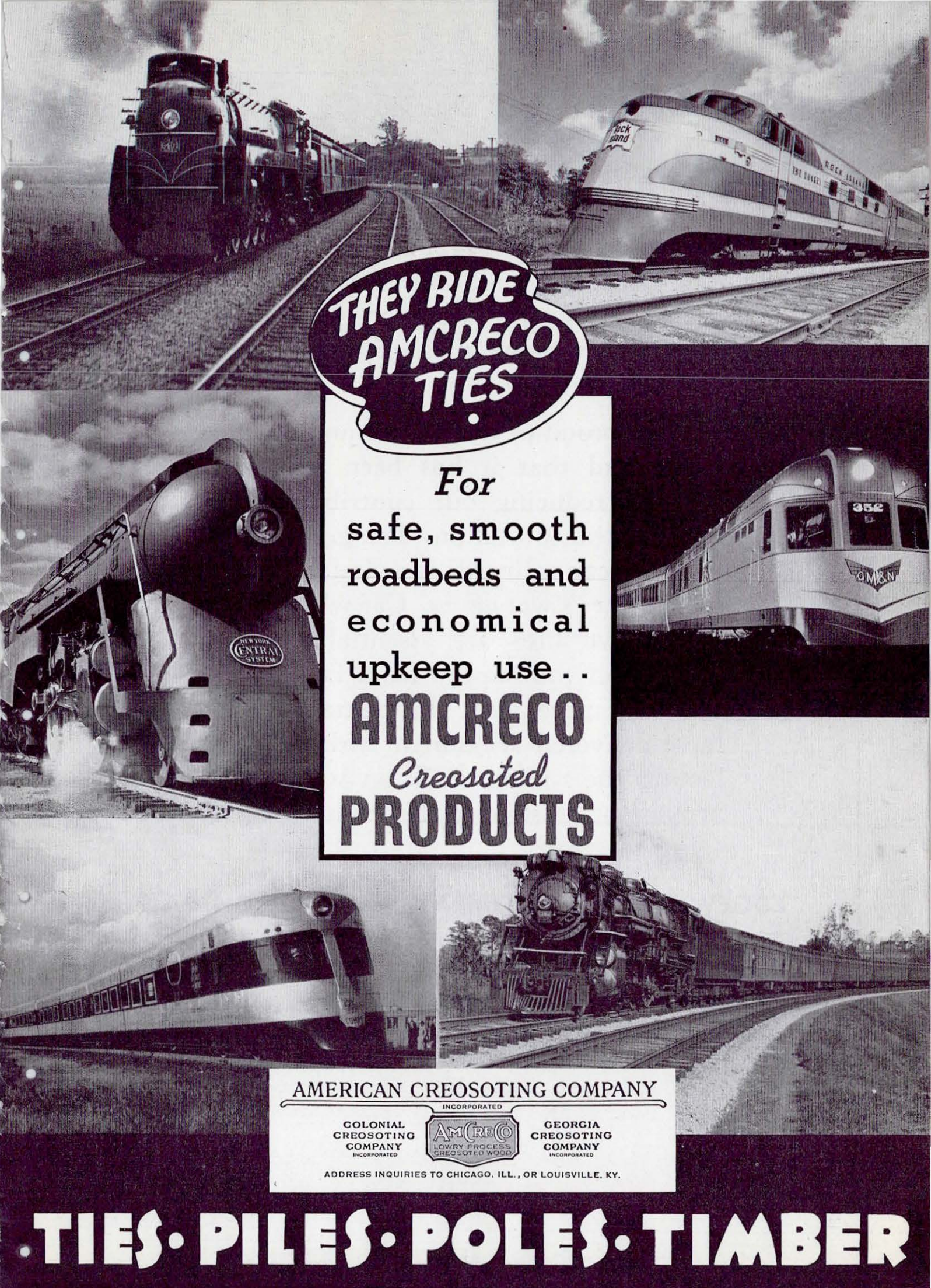
AMERICAN CREOSOTING COMPANY
INCORPORATED

COLONIAL CREOSOTING COMPANY
INCORPORATED

AMCRECO
LOWRY PROCESS CREOSOTED WOOD

GEORGIA CREOSOTING COMPANY
INCORPORATED

ADDRESS INQUIRIES TO CHICAGO, ILL., OR LOUISVILLE, KY.


THEY RIDE
AMCRECO
TIES
For
safe, smooth
roadbeds and
economical
upkeep use..
AMCRECO
Creosoted
PRODUCTS
AMERICAN CREOSOTING COMPANY
INCORPORATED
COLONIAL CREOSOTING COMPANY INCORPORATED
AMCRECO
LOWRY PROCESS CREOSOTED WOOD
GEORGIA CREOSOTING COMPANY INCORPORATED
ADDRESS INQUIRIES TO CHICAGO, ILL., OR LOUISVILLE, KY.
TIES · PILES · POLES · TIMBER

ON October 1, 1942, Edgewater Steel Company was honored by receiving the Army-Navy Production Award for high achievement in the production of war equipment.

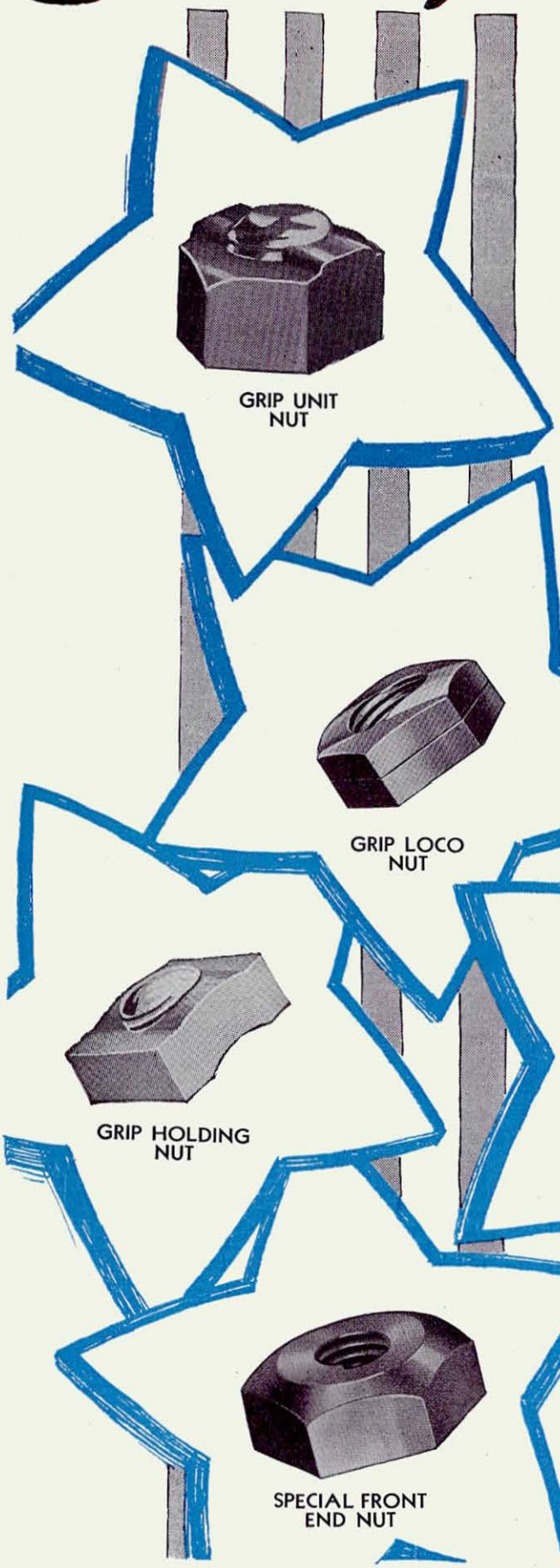
We are proud of this honor and are no less proud that it has been achieved without reducing our contribution to railroad transportation. The great work of American railroads is a vital factor in the country's war effort. Car wheels and locomotive tires are essential to that work, and the supply from Edgewater has kept pace with the demand. We have delivered armament without neglecting the rolling stock on which the armament must go to the front.

EDGEWATER STEEL COMPANY - PITTSBURGH, PA.

Sales Offices:

ATLANTA BALTIMORE BOSTON CHICAGO CLEVELAND KANSAS CITY LOUISVILLE NEW YORK PHILADELPHIA PORTLAND ST. LOUIS ST. PAUL SAN FRANCISCO SEATTLE TULSA WASHINGTON

Stars of the Railroads in War as in Peace



It is the myriad little measures of safety units that total the whole security of American railroad travel.

Grip Nuts, serving well in unseen places, are carefully designed to withstand all vibration and perform their part on this work of reducing all possible hazard to shipping and travel.

Send for complete details and prices.

GRIP NUT COMPANY
310 South Michigan Ave.
Chicago

A.A.R. Approval

GRIP NUTS

THE HANDLE WITH CARE sign is important today. It belongs on every tool and on every piece of equipment in America. We can't afford a speck of waste, and even the toughest equipment will last longer when cared for properly.

For example, your sturdy, long-lived, dependable Exide Batteries will last even longer if you follow the simple maintenance steps given on this page. The rule of the day is *Handle With Care.* Treat your batteries right . . . and you help treat the Axis rough.

MAKING BATTERIES LAST HELPS STOP THE AXIS!

1 Keep adding approved water at regular intervals. Most local water is safe. Ask us if yours is safe.

2 Keep the top of the battery and battery container clean and dry at all times. This will assure maximum protection of the inner parts.

3 Keep the battery fully charged—but avoid excessive over-charge. A storage battery will last longer when charged at its proper voltage.

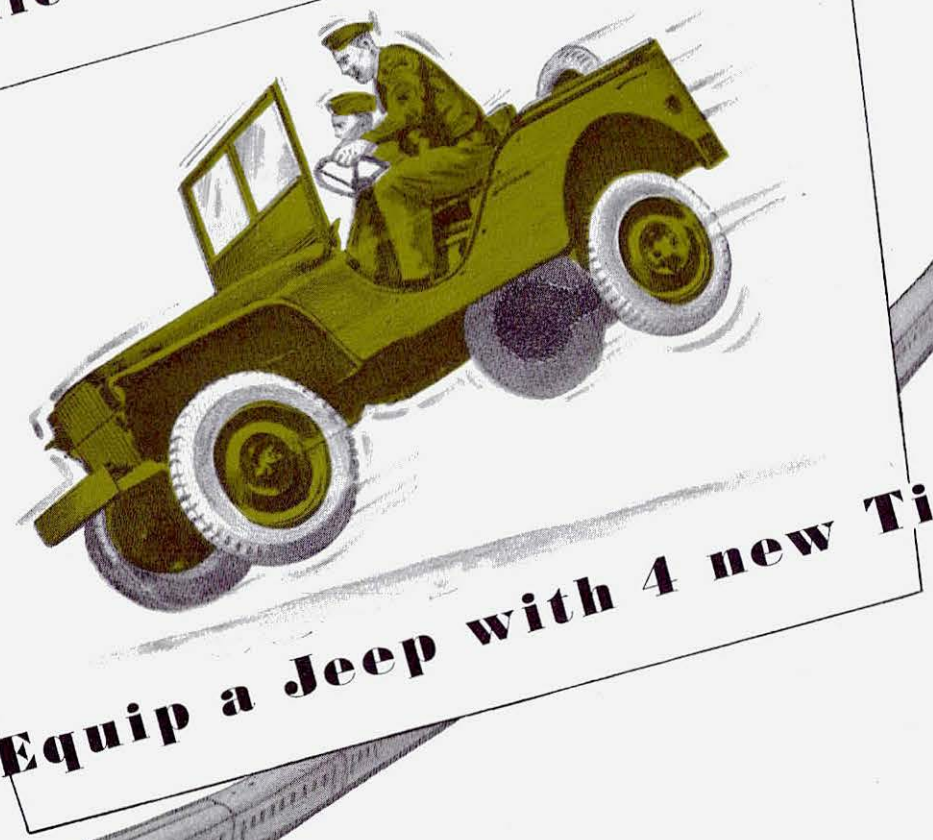
4 Record water additions, voltage, and gravity readings. Don't trust your memory. Write down a complete record of your battery's life history. Compare readings.

If you wish more detailed information, or have a special battery problem, don't hesitate to write to Exide. We want you to get the long-life built into every Exide Battery. Ask for booklet Form 3814.

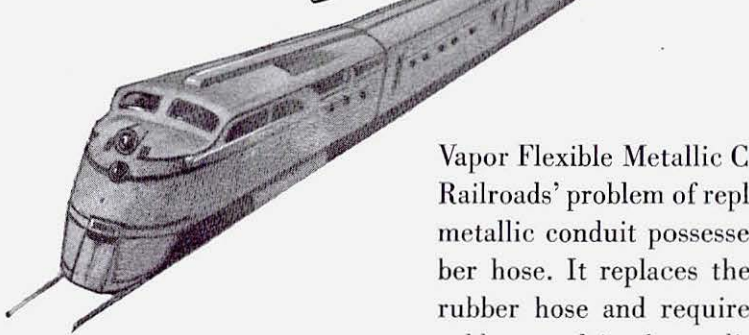
Exide
IRONCLAD
BATTERIES

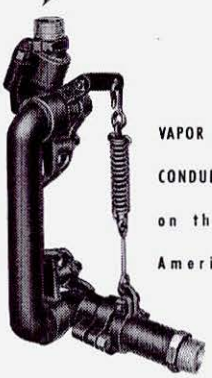
THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia
The World's Largest Manufacturers of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto

Substitute Vapor Flexible Metallic Conduits for Rubber Hose



and Equip a Jeep with 4 new Tires!





VAPOR FLEXIBLE METALLIC CONDUITS are standard on the majority of American Railroads

Vapor Flexible Metallic Conduits are the answer to the Railroads' problem of replacing rubber hose—and Vapor metallic conduit possesses many advantages over rubber hose. It replaces the large quantity of rubber in rubber hose and requires only the small amount of rubber used in the sealing compound of the gaskets. It will last the life-time of the car; requires no replacement and minimum maintenance. It conserves vital fuel and steam—prevents the possibility of excess steam escaping, thus helping to put every pound of vital steam to work for Uncle Sam!

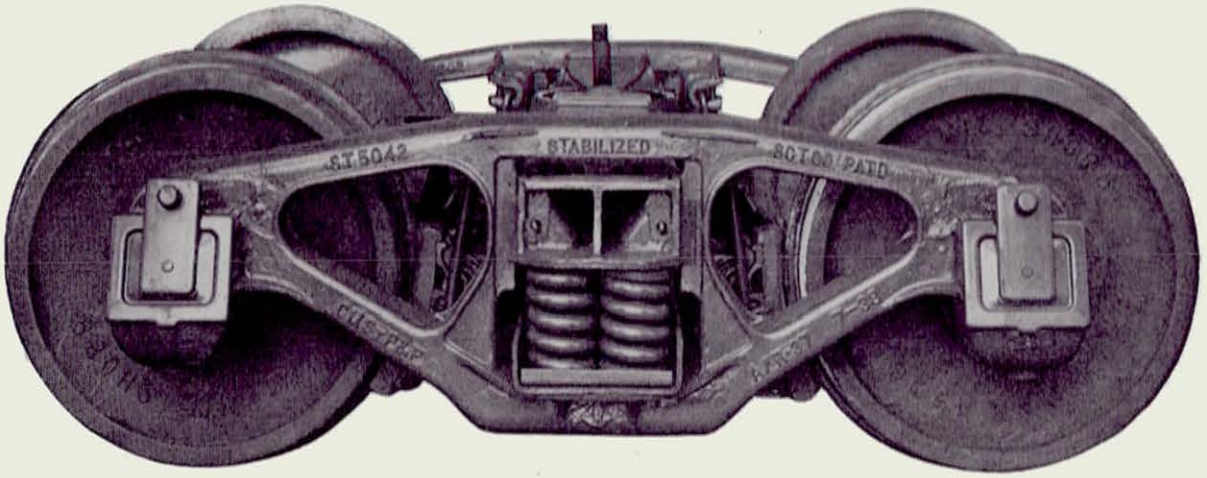
Write for the bulletin "Now More Than Ever" for further specific information about the substitution of Vapor Flexible Metallic Conduits for rubber hose.

VAPOR CAR HEATING CO., INC.

RAILWAY EXCHANGE CHICAGO, ILLINOIS

New York Philadelphia Washington San Francisco St. Paul

Protect Your Cars and Ladings!



Reduce Harmonic Bouncing

Protect Cars and Lading

Increased Speeds with Greater Safety

Spring Breakage Is Eliminated

Reduce Car Maintenance Expense

Wear from Friction Is Automatically Absorbed

BARBER *STABILIZE* YOUR TRUCKS

New and rebuilt cars are best equipped to stand up under wartime freight demands when Barber Stabilized Parts are built into the trucks.

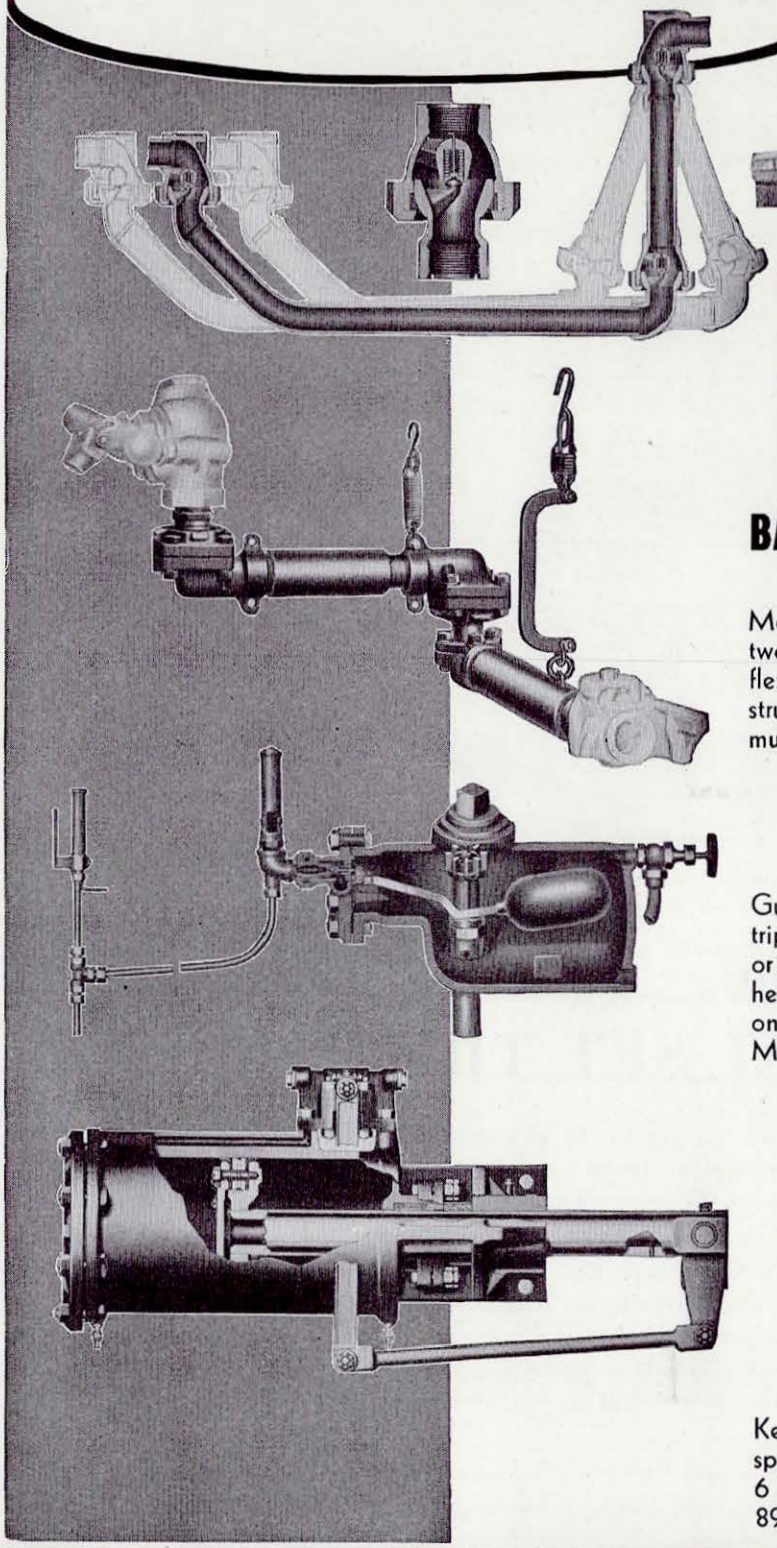
BARBER-STABILIZING of trucks **permanently** protects both cars and ladings from damage at **all travel speeds** . . . by reducing the hard, bouncing action of the spring nest to a soft, permanently controlled and stabilized cushioning action. Cars ride easier, smoother . . . need less repairs . . . last longer. Ladings have the extra protection the shippers expect.

Over 58,000 Cars With Stabilized Parts Now in Service

STANDARD CAR TRUCK COMPANY

332 SOUTH MICHIGAN AVE. CHICAGO, ILLINOIS

BARCO PRODUCTS CONTRIBUTE
to the safety and efficiency of War Time Railroading



BARCO ENGINE TENDER CONNECTIONS

Bolted direct to Locomotive and Tender, require no manifolds—minimum number of 90° bends—steel wearing parts—Hardened alloy steel forgings providing the utmost in safety, efficiency and low maintenance cost.

BARCO STEAM HEAT CONNECTIONS

For Passenger Cars and Rear of Tender

Metal wearing parts hardened alloy steel—only two wearing points per connection — maximum flexibility combined with simplicity and rugged construction provide maximum steam supply with minimum attention and lowest maintenance cost.

BARCO LOW WATER ALARM

Two-Whistle Float Type

Guards against engine failures—May be tested each trip in less than two minutes without any adjustments or disturbance of parts—Actuated solely by the height of the water above the crown sheet—depends on no other variables—Easy to Apply—Easy to Maintain.

BARCO POWER REVERSE GEAR

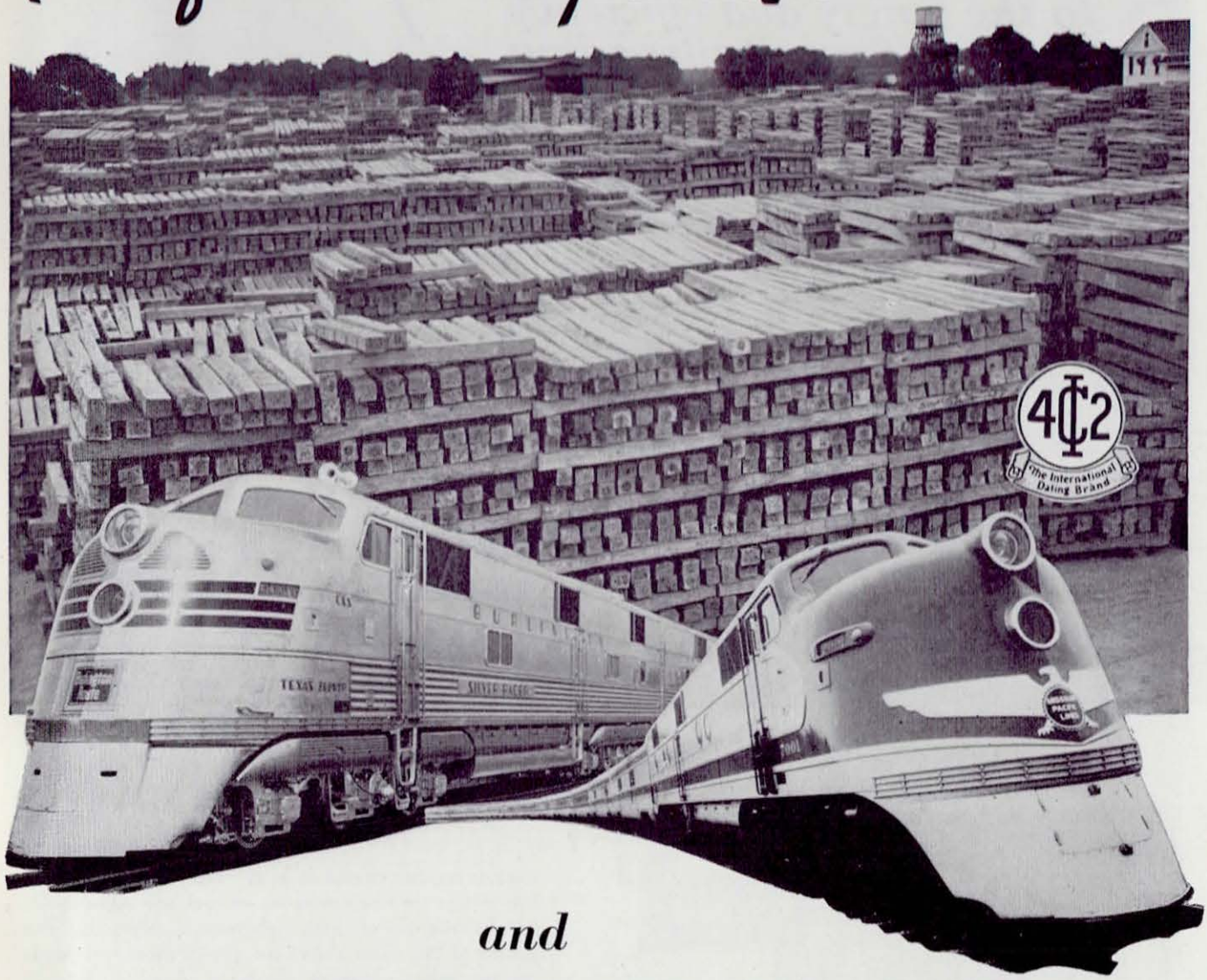
Provides the fine adjustment and precision-accurate control of locomotive valve motion essential to today's higher speeds. Maintains selected point of cut-off—even a broken air supply pipe will not change the position.

BARCO UNIT TYTAMPERS

Keep track in condition to handle present high train speed with safety, at minimum expense.
6 Years' Satisfactory Service.
89 Railroads now Using.

BARCO MANUFACTURING COMPANY
1800 W. Winnemac Ave. NOT INCORPORATED Chicago, Illinois
In Canada THE HOLDEN COMPANY, LTD.
Montreal — Moncton — Toronto — Winnipeg — Vancouver

Adequate Transportation is VITAL



and

TRACK MUST SET THE PACE

PASSENGER Progress cannot outstrip the track. In fact streamlined operation, involving high speeds and unrestricted schedules with comfort and safety, can be carried on successfully only where the track structure has set the pace. The sound track must be there first and high quality treated ties are a vital factor.

The use of International Creosoted Ties makes certain that the vitally essential elements of track construction will retain their soundness and integrity for many years. International methods assure sound, full-size ties with each tie graded and marked permanently in strict accordance with A.R.E.A. specifications. The entire production and seasoning is supervised carefully to prevent decay, and treatments are made under scientific control using only the highest grade preservatives.

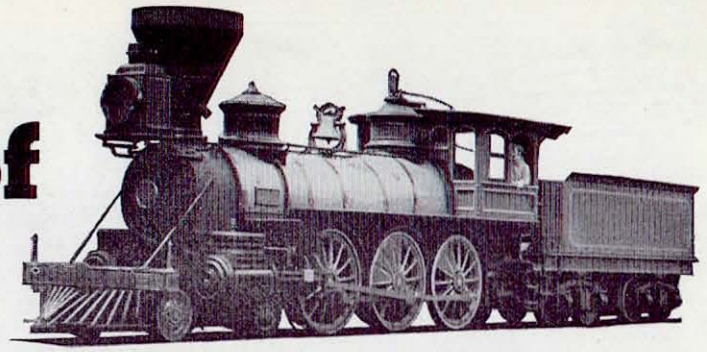
International Ties do much more than improve service and save money—They conserve our National Timber Resources because International Ties are made to provide a very long service life.

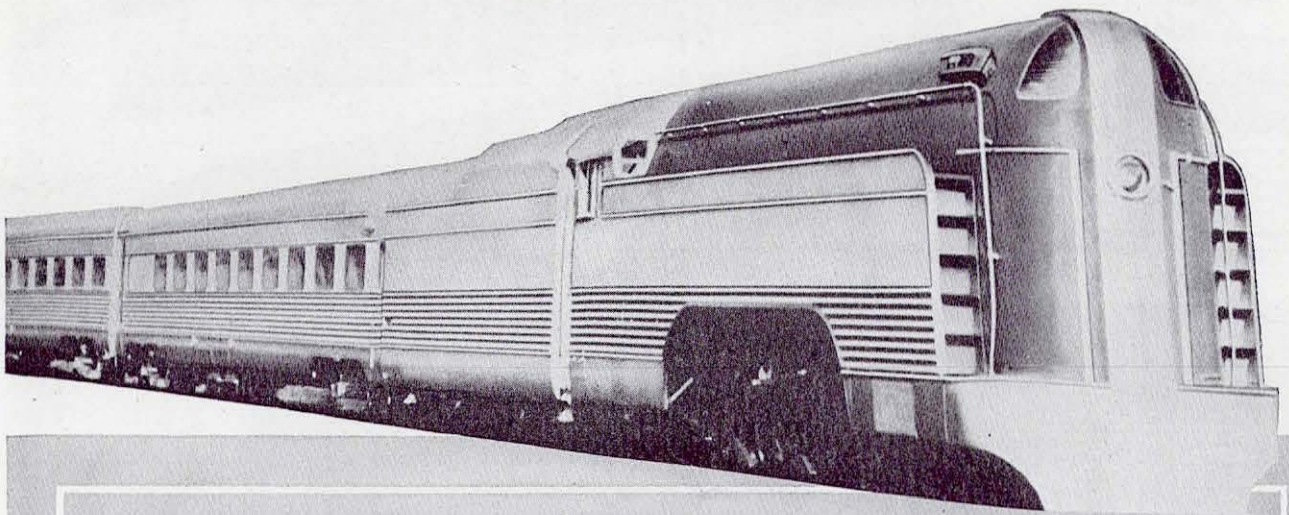
INTERNATIONAL CREOSOTING & CONSTRUCTION CO.

PRODUCERS OF HIGH GRADE TREATED TIES, POLES, PILES, ETC.

Galveston — Beaumont — Texarkana

84 Years of Service to Transportation





The contribution of J-M products to the performance record of the nation's railroads under the trying conditions of wartime operation is a source of pride and satisfaction to Johns-Manville.

- ★ J-M PASSENGER CAR INSULATION
- ★ J-M PASSENGER CAR FLOORING
- ★ J-M TRAIN LINE INSULATION
- ★ J-M LOCOMOTIVE BOILER LAGGING
- ★ J-M PIPE INSULATION
- ★ J-M LOCOMOTIVE PACKINGS

JOHNS-MANVILLE JM PRODUCTS

JOHNS-MANVILLE

NEW YORK CLEVELAND CHICAGO ST. LOUIS SAN FRANCISCO

EVERYB
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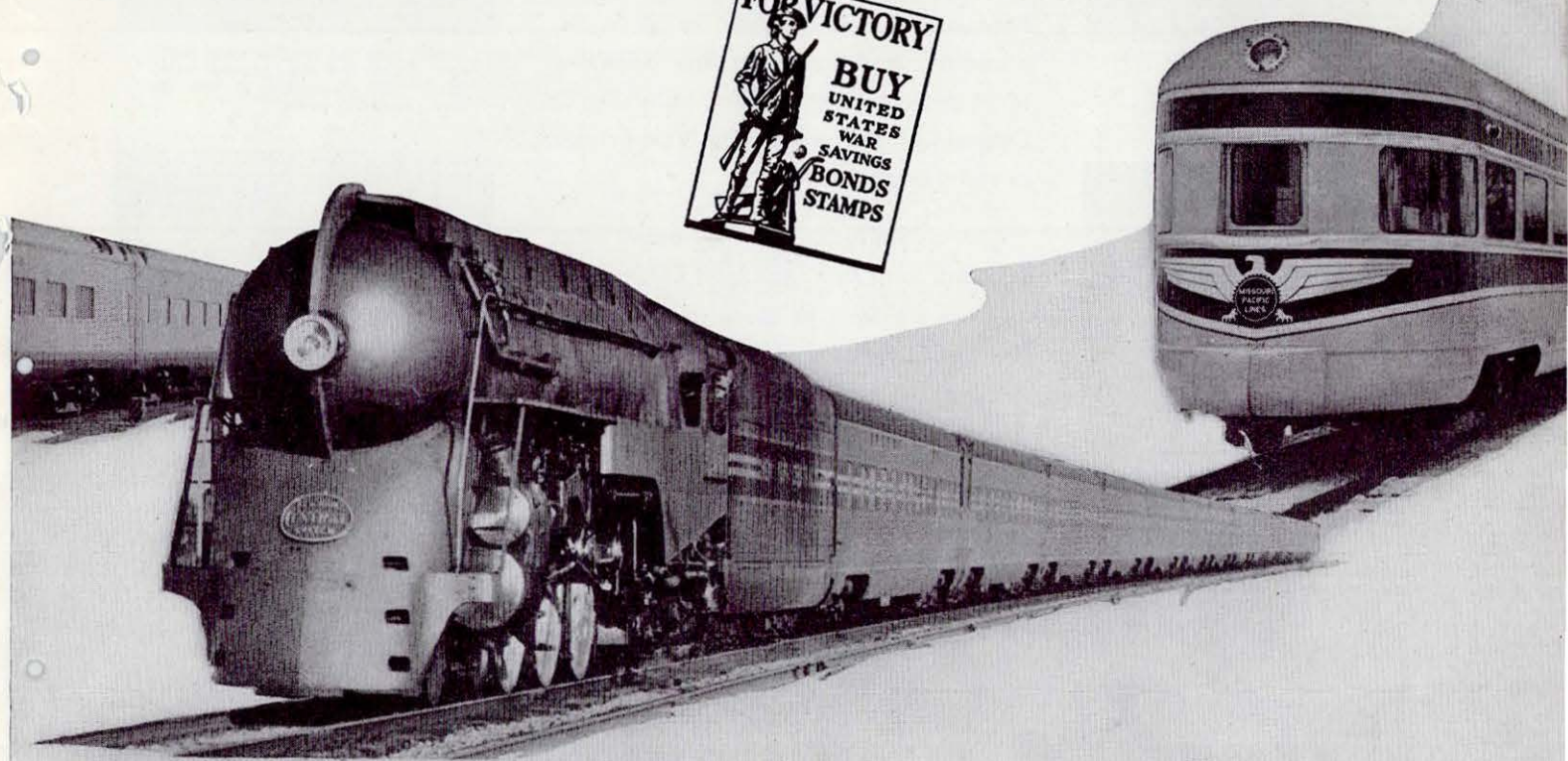
Rock Island
SOUTHERN
SR
SOUTHERN RAILWAY SYSTEM

ODY RIDES *Smoothly*

"RAILWAY" SPRINGS

CONSERVE VITAL MATERIALS AND REDUCE REPAIRS . . . .

Their Correct Design, Quality Materials and Scientific Heat Treatment assure long life and low maintenance thereby contributing much to the war effort by conserving vital material and reducing repairs.

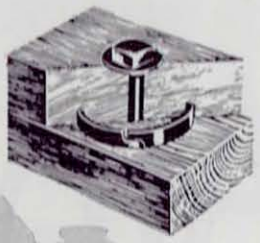


AMERICAN LOCOMOTIVE COMPANY

Railway Steel Spring Division

30 CHURCH STREET, NEW YORK. N. Y.

Making all TIMBER connections



The TECO Ring Connector spreads the load on a timber joint over practically the entire cross-section of the wood . . . brings the full structural strength of lumber into play.

Types of Railway structures using TECO TIMBER CONNECTORS:

1. Roof Trusses
2. Overhead Cranes
3. Timber Bents
4. Connections between pile heads and caps.
5. Trestles.
6. Ballast deck stub piles.
7. Piers.
8. Pier Fenders
9. Sway Bracing
10. Coal Pockets
11. Auto Loading Dock
12. Between Rail Post and Tie Connections
13. Bridge Decks
14. Scaffolding
15. Coaling Towers
16. Warehouses

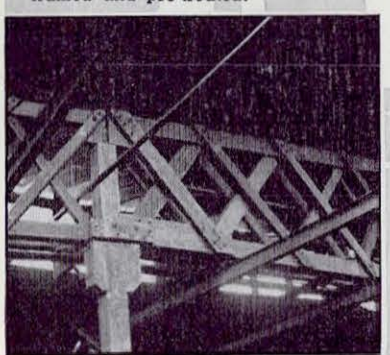
This structure employs TECO spike grids in all braced joints . . . The TECO system of construction is ideally suited to shop fabrication. All bents for this trestle were pre-framed and pre-treated.

Detroit Terminal loading dock, 600' x 50'. Thirty-five 50' trusses fabricated and assembled at job site and erected in units.

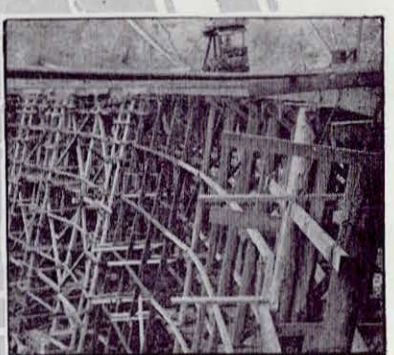
Because of advantages in strength, economy, and long life, the railways of America use timber and TECO Connectors for practically every type of railway structure.

These advantages . . . of more joint strength with less wood and hardware . . . are obvious to those familiar with the TECO System of Timber Construction, which has been largely responsible for the many advances recently made in engineering timber to modern use as a construction material.

Full details, with case histories of jobs done, will be sent you on request.



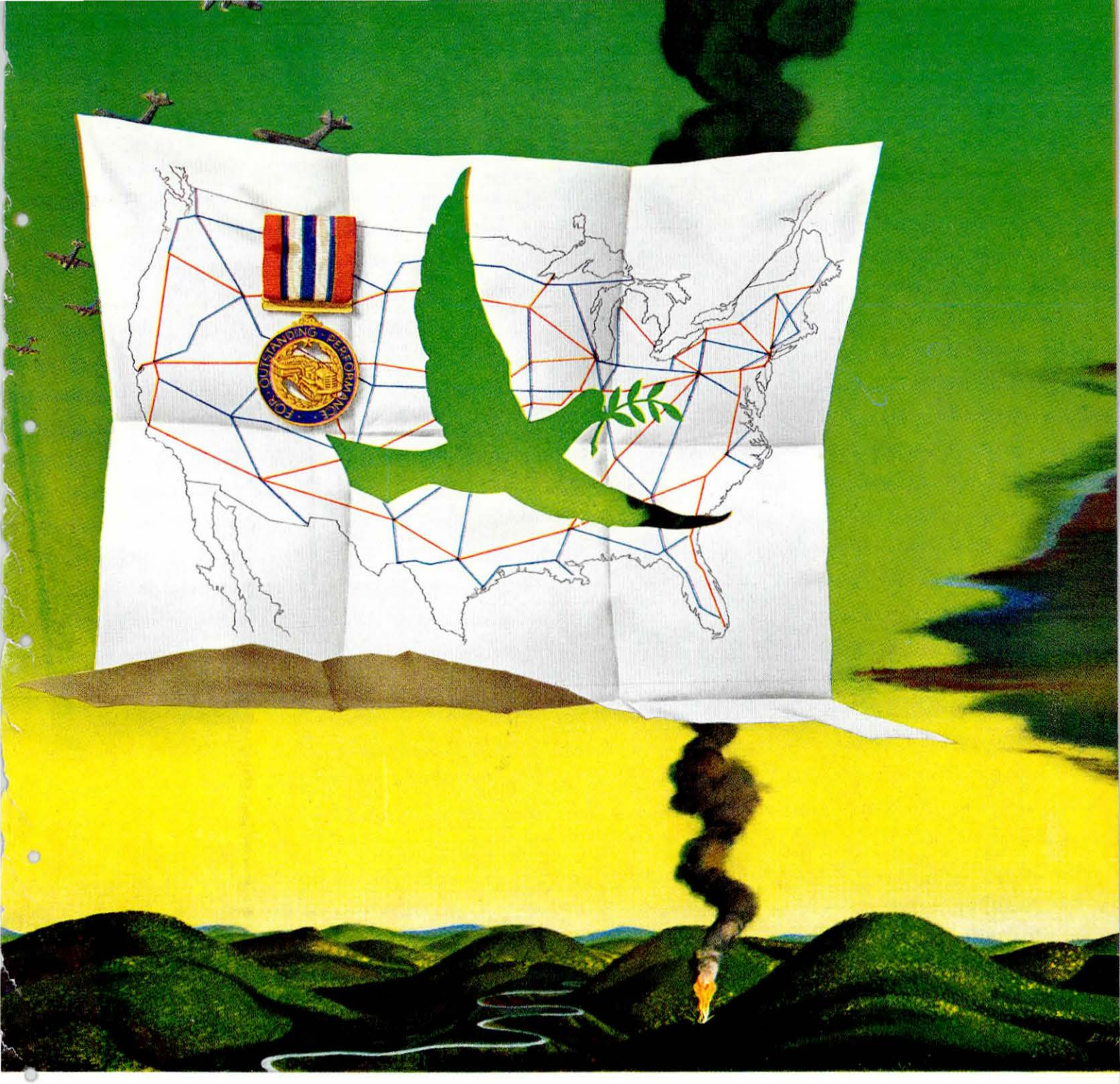
Chesapeake & Ohio Roundhouse, Clifton Forge, Virginia. Split rings were used for timber roof truss joint connections. Toothed rings were used for attachment of timber roof truss seats to timber columns.



Southern Pacific Trestle, Cochran, Ore. TECO toothed rings (3⅜") used in bracing connections on this structure.

Timber ENGINEERING COMPANY

WASHINGTON D. C. PORTLAND, ORE.



America built her Burma Roads in Peace

The spectacle of a friendly nation of half a billion people dangling from one thin, precarious, mountain-clinging supply line made the Burma Road probably the most famous military road of all time.

America, with but a quarter of the population of China, built the finest highway system in the world. That highway system today is paying the nation an unexpected "dividend." For the development of the American highways contributed to the growth of the American coal tar industry and the coal tar industry is now one of the important sources of highly-essential war materials for the nation.

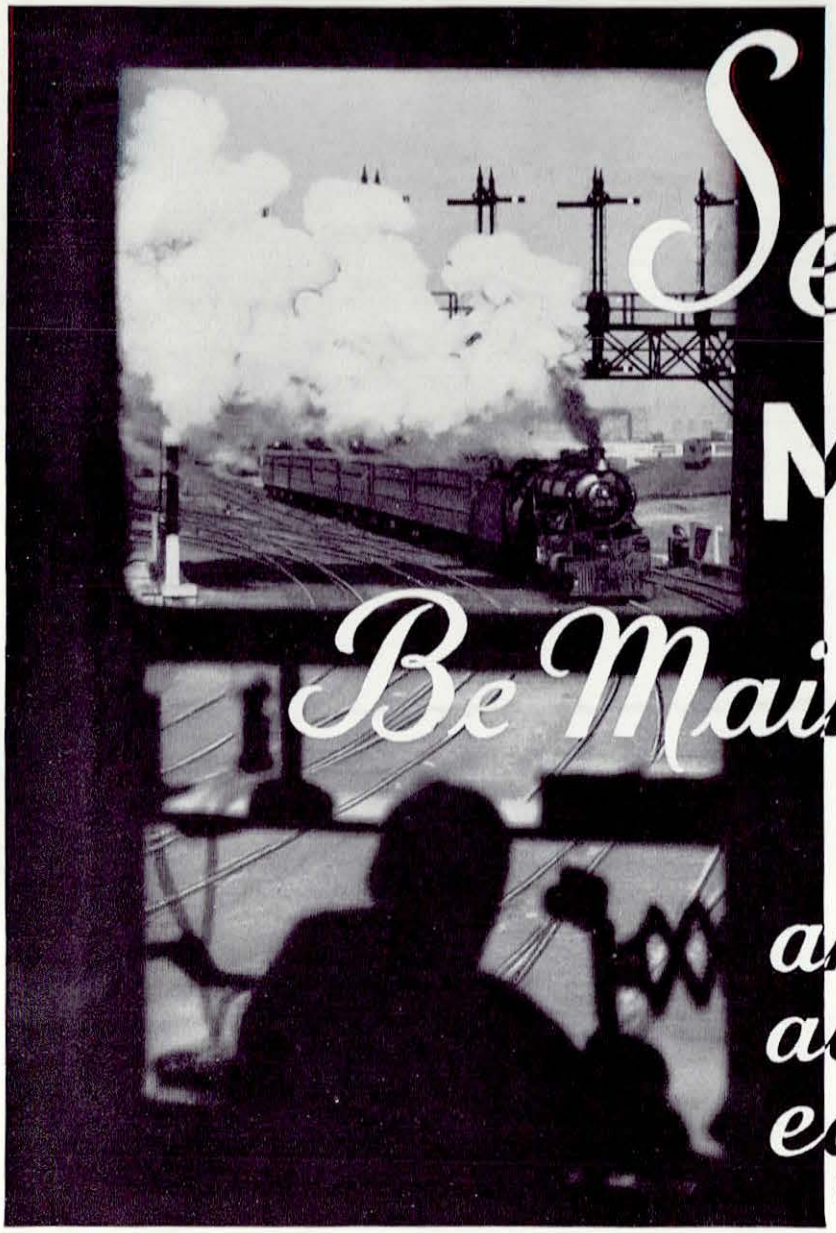
Large quantities of coal tar that formerly went into roads are now being used to make pitch coke and carbon pitches that are important in aluminum manufacture . . . core pitches that help speed the casting of airplane and tank parts . . . naphthalene, from which is made one of the ingredients of flashless powder and of new-type paints for battleships . . . creosote to pressure-treat timber for piers and docks and for construction work, where it is releasing much-needed steel . . . tar acids for plastics . . . target pitch which is helping American marksmen learn to follow the flight of an enemy plane . . . and many other products.

Koppers is producing millions of gallons of coal tar for these purposes and processing it for the recovery of these vital war materials. In addition, it is still turning out huge quantities of road tar for the construction of access roads and airport runways and for the maintenance of existing highway surfaces.—Koppers Company, Pittsburgh, Pa.

Buy United States War Bonds and Stamps

KOPPERS

THE INDUSTRY THAT SERVES ALL INDUSTRY



Service MUST Be Maintained and with available equipment

SAFETY COMPANY Car Lighting Equipment is rugged and reliable. We are prepared—to supply replacement parts for upkeep of equipment now in service . . . to furnish new equipment where permitted . . . to solve your car lighting problems.

Use our experience for your expedience

THE SAFETY CAR HEATING and LIGHTING COMPANY, INC.

NEW YORK - CHICAGO - SAN FRANCISCO - PHILADELPHIA - BOSTON - ST. LOUIS - MONTREAL

Point attachment showing locking rod clamped to switch point.

a LOCKED SWITCH is a SAFE SWITCH

Style 3911 for high stands — normally padlocked as shown but hand lever may also be padlocked or simple interlocking means provided.

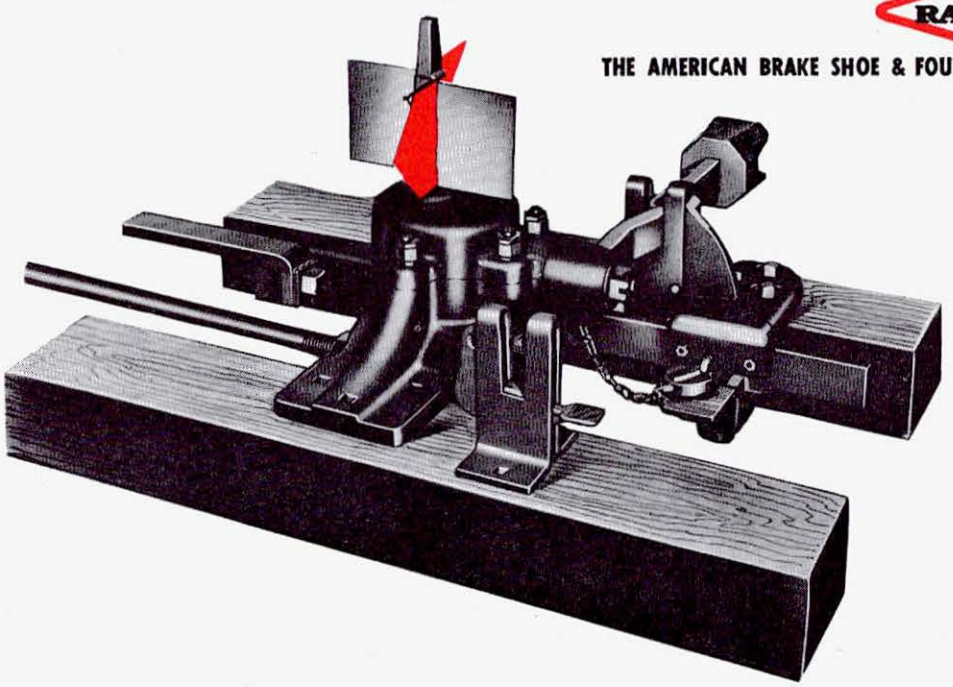
The Racor Switch Point Lock protects the switch, even if the stand is knocked down. Its mechanism is entirely separate from the stand and located below the top of the tie.

1. **Easy installation and maintenance.**
2. **Simple and accurate adjustment.**
3. **Convenient treadle release, which does not delay opening of switch.**
4. **Direct clamping of locking rod to switch points.**
5. **Impossible to insert padlock unless switch is properly closed.**

RAMAPO AJAX DIVISION

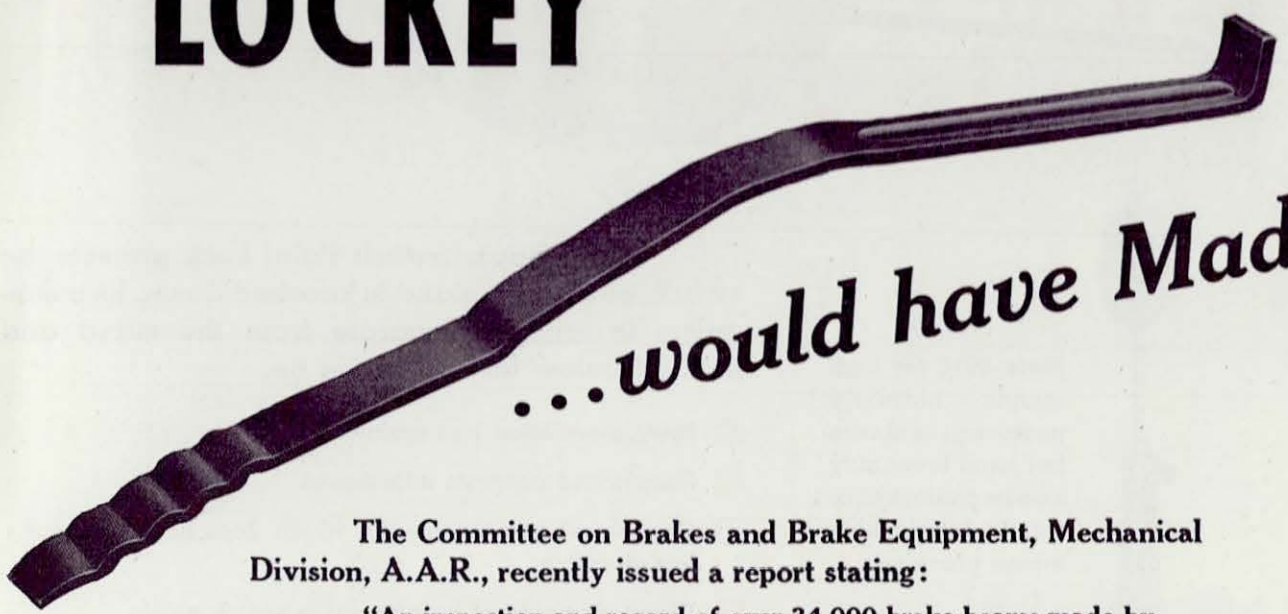
RACOR

THE AMERICAN BRAKE SHOE & FOUNDRY CO. • 230 Park Ave., New York



Style 3912 for Ground Throw stands. Note that one padlock provides positive locking and prevents raising of hand lever.

A Brake Shoe LOCKEY



...would have Made

The Committee on Brakes and Brake Equipment, Mechanical Division, A.A.R., recently issued a report stating:

> "An inspection and record of over 34,000 brake beams made by the members of the Committee on Brakes and Brake Equipment indicated that approximately 50% of all brake beam removals are due to worn heads. The worn head condition is a direct result of relative motion between the brake shoe and brake head. The better the brake shoe fits the head, the less this relative movement will be and consequently will minimize the wear."

Motion between the brake head and brake shoe in freight car operation is minimized by the Brake Shoe Lockey. It holds the shoe and head tightly together. It also prevents loss of shoes and keys while on car dumpers or by chattering brakes.

The Lockey, made of alloy spring steel, specially heat treated, will not take a permanent set and can be used many times.

Use the Brake Shoe Lockey in all your freight equipment and reduce brake beam removals to a minimum.

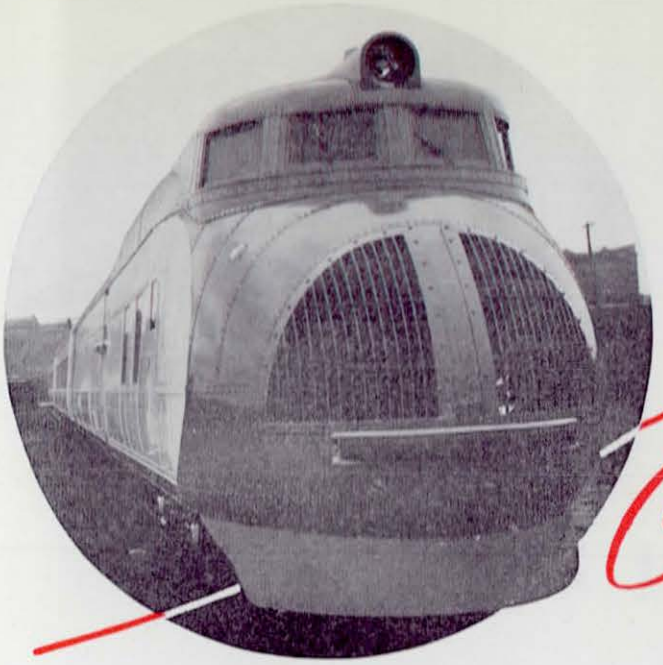
THE AMERICAN BRAKE SHOE

this Head Last Longer!

AND FOUNDRY COMPANY

BRAKE SHOE AND CASTINGS DIVISION

.3170

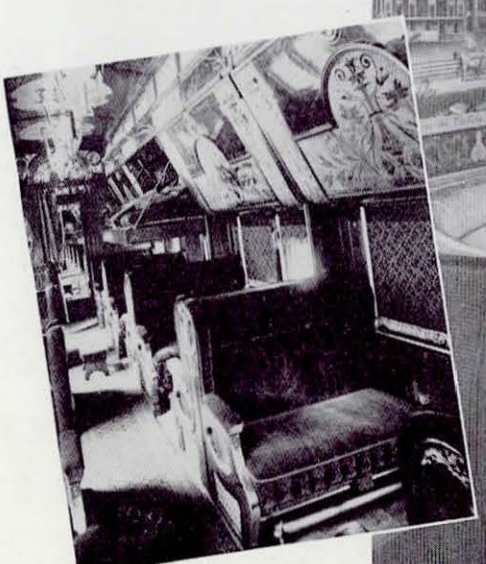


Since Pullman-

...over 1500 *Pullman-built* light-weight

No car built by Pullman-Standard has ever failed to pass the tests prescribed by the Association of American Railroads . . . no car has required reinforcement or rebuilding as a result of operation in service.

Pullman-Standard's choice of materials, theory of design and methods of manufacture have been proved sound. The long experience of this organization is built into its products.



Built by Pullman in 1888

PULLMAN-STANDARD CAR

CHICAGO • NEW YORK • CLEVELAND • WASHINGTON, D. C.

San Francisco Sales Representative

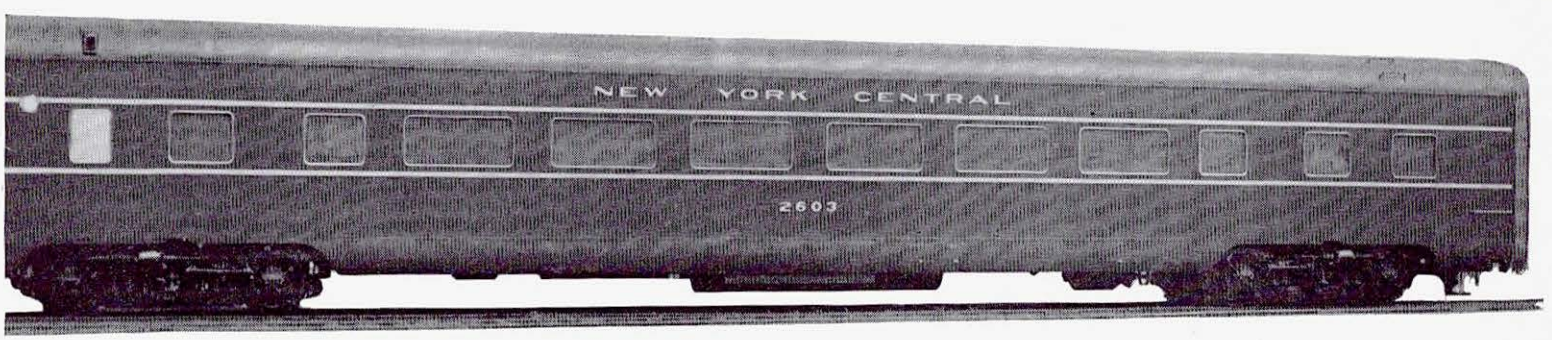
Standard built the first streamliner

cars have been placed in service

Structural engineering, involving safety and maintenance cost, is one of the most important phases in the development of modern streamlined trains.

Pullman-Standard Car Manufacturing Company has made exhaustive tests of all of the available materials and rejected those which had unsatisfactory physical characteristics for structures of railway cars. Its engineers have followed the long accepted standard formulas of design and methods of assembly. As a result, cars built by this Company employ aluminum alloys and low alloy high tensile steel in their structures, some of the latter being sheathed with stainless steel. They comply with all of the standard specifications which were in vogue at the time they were built.

The railroads over which these trains have operated have served as a proving ground, from which much valuable experience has been obtained.



WITH EQUAL SAFETY NO MODERN PASSENGER CARS HAVE BEEN BUILT AT WEIGHTS LOWER THAN THOSE ACHIEVED BY PULLMAN-STANDARD

MANUFACTURING COMPANY

PITTSBURGH • BALTIMORE • BIRMINGHAM • WORCESTER, MASS.

Latham McMullin

McCONWAY & TORLEY CORPORATION

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FOR

Passenger, Freight *and* Industrial Service

A.A.R. Standard E Couplers

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Pitt Pivoted *and* Pitt Rigid Type Passenger Couplers

¾ Size Contour Couplers

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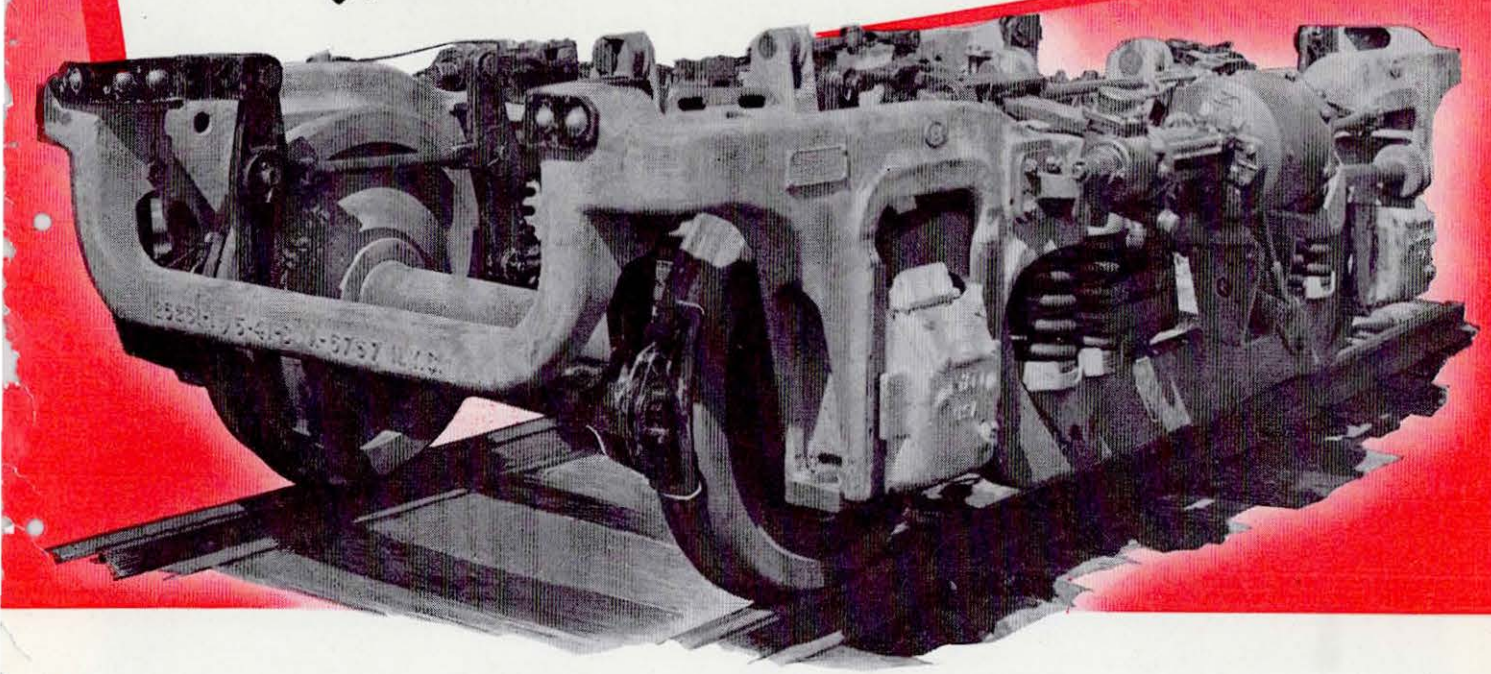
Steel Castings

Grade "B" *and* Alloy Steels

GENERAL OFFICES AND WORKS **PITTSBURGH, PA.**

SALES OFFICES: Baltimore · Chicago · St. Louis · San Francisco

On the trucks of most streamliners...

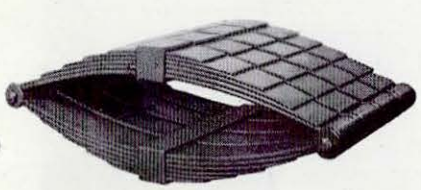


SIMPLEX Unit Cylinder CLASP BRAKES are helping to maintain the schedules of these modern trains.

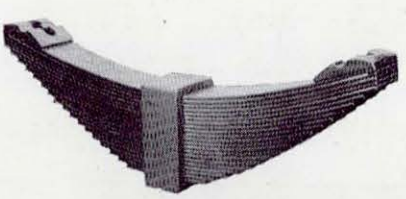
They are making it possible to effect quick, time-saving stops with safety, and with comfort to the passengers.

Simplex Clasp Brakes are in service on practically all the streamliners.

Simplex Unit Cylinder Clasp Brakes are equally effective under locomotives and tenders . . . in switching service they permit faster handling of yard movements.



Full elliptic springs



Semi-elliptic springs

Volute springs

Coil springs

Another A. S. F. product—Springs for passenger and freight equipment

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Chicago

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APPRECIATION

FOR THEIR ACTIVITIES PERTAINING
TO THE SALVAGE OF SCRAP METALS

CF&I STEEL

The Colorado Fuel and Iron Corporation

Makers of CF&I RAIL AND FASTENINGS

GENERAL OFFICES: DENVER, COLORADO

CRECO SUPPORTS cut brake rigging maintenance costs

Each year, a certain Car Line totals up repair costs covering all items of car maintenance.

About half of the cars have Creco Brake Beam Supports . . . the remainder have ordinary safety guards.

★ ★ ★

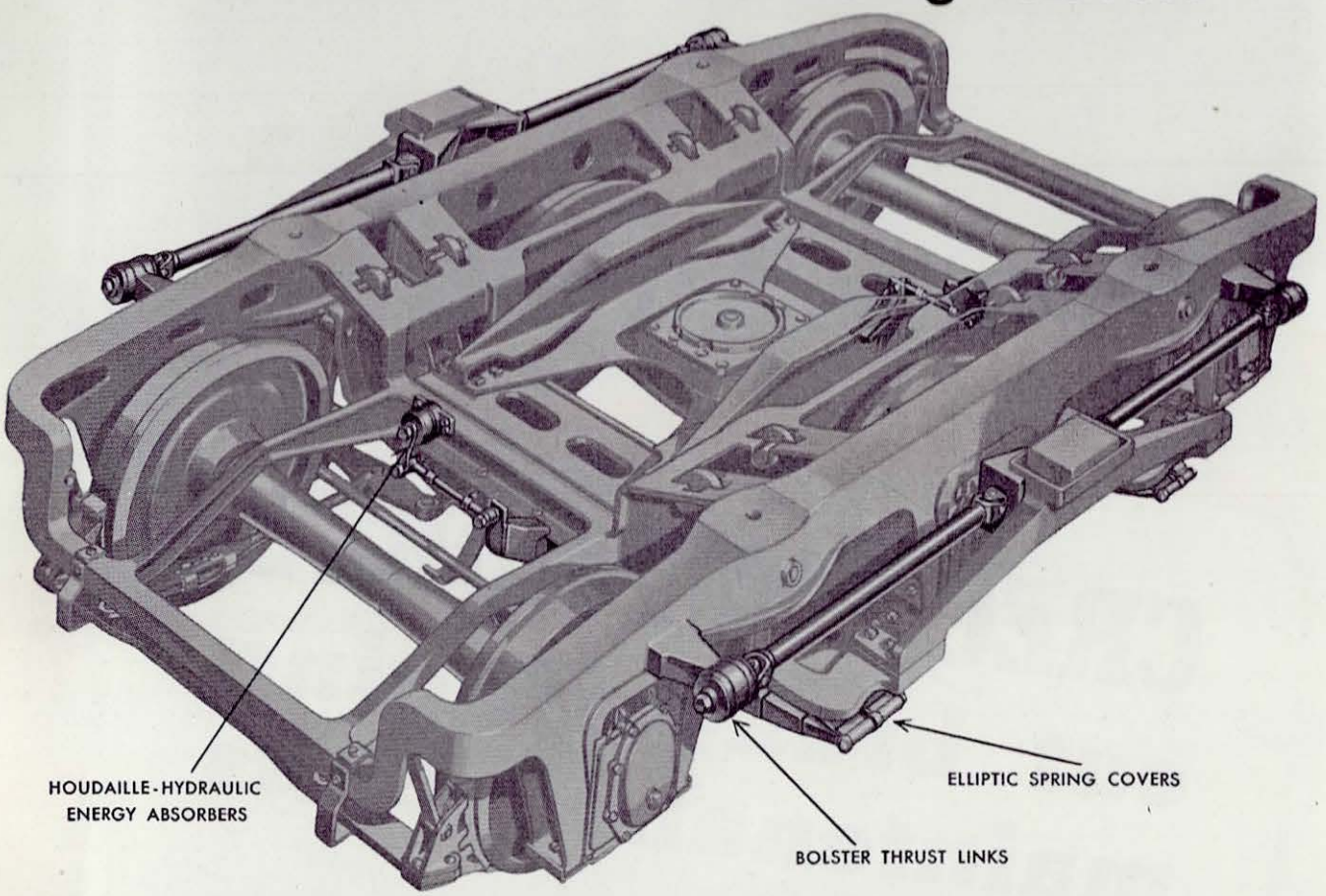
The maintenance cost of Creco supported brake rigging was found to be only half of that of brake rigging otherwise supported.

CHICAGO RAILWAY EQUIPMENT CO.

McCormick Building, Chicago

STOP FRICTION

→ the greatest enemy of maintenance costs and riding comfort



"CONTROLLED ACTION" BOLSTER INSTALLATION ON 6-WHEEL TRUCK

SHOWN above is a combination of three new developments, readily installed in existing truck equipments, which greatly reduces friction and wear and which notably improves riding comfort.

1. *Thrust Links* eliminate drag and wear of bolster wear plates.
2. *Spring Covers* eliminate elliptic spring friction by retaining spring lubrication and excluding abrasive dirt and corrosion.
3. *Houdaille Energy Absorbers* provide hydraulic control of lateral motion.

Extensive road tests have established an accurate measure of the improvement effected in passenger car riding characteristics. A folder describing this Controlled Action Bolster Installation will be sent upon request.

This installation is being marketed as a unit by
E. A. Lundy, Inc., 420 Lexington Ave., New York City

HOUDE ENGINEERING DIVISION
of HOUDAILLE-HERSHEY CORPORATION
Buffalo, New York

*(OIL-LUBRICATION FOR DRIVING JOURNALS)

CAN OIL* AVERT THE COMING SHORTAGE OF MOTIVE POWER?

Already, Railway Age reports that U. S. freight locomotives must haul 34% more ton-miles than a year ago.

Meanwhile, shortage of critical materials is cutting deeply into the supply . . . *and quality* . . . of axles and bearing-metals.

Will this force a break-down of motive power?

OIL-lubrication for driving journals can *check that threat.* Locomotives with *OIL*-lubricated driving-journals *stay on the road longer . . . run cooler* . . . and *do not need* replacement bearings or journals.

4600 Hennessy mechanical driving-journal lubricators are proving this, now, on 20 trunk-line roads. And Hennessy Lubricators may be installed easily and quickly – in *any* existing friction-bearing journals. Hennessy Lubricator Co., 75 West Street, New York.

(For typical locomotives, equipped with Hennessy OIL-Lubricators, see our advertisements in Railway Age for November 7 and October 17).

MECHANICAL OIL-LUBRICATION FOR ALL JOURNALS OF RAILWAY EQUIPMENT

America at war can afford no interruption of vital railroad traffic. Proper drainage is doubly important now. As desirable as it is, steel must not be used in any drainage structure unless engineering integrity demands it. Even so, perhaps we can help you in other ways.

For example, ARMCO Emergency Pipe may be just the answer to your war-time drainage problems. This completely new design in wood pipe requires no steel sheets, bands, wire mesh or metal reinforcing. It is easy to handle and has ample strength to meet engineering standards. ARMCO Wood Pipe is designed to last through the emergency. On more permanent installations, when replacement becomes necessary, a corrugated metal pipe may easily be threaded through or jacked around the wood structure.

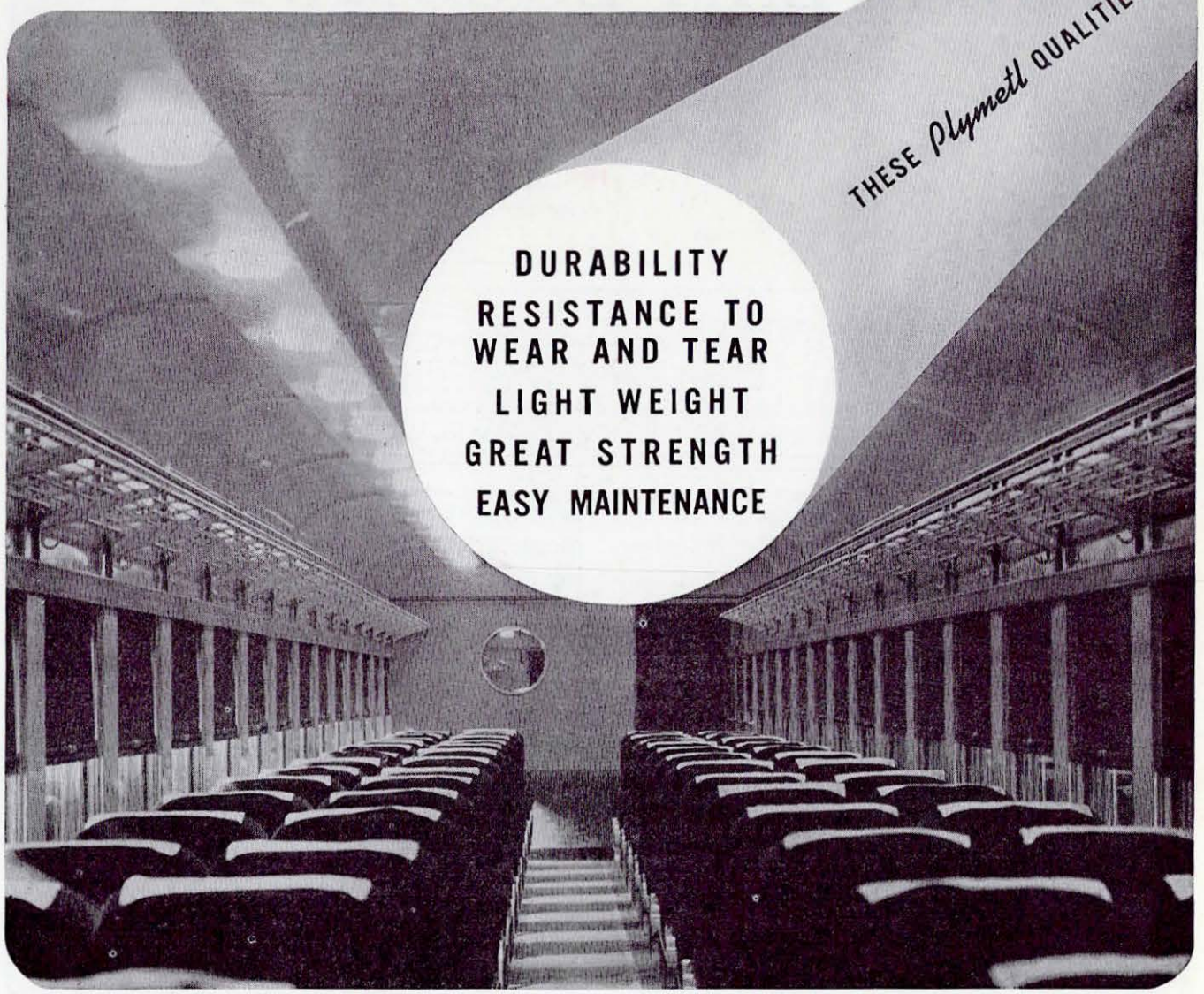
Remember that ARMCO Corrugated Metal Pipe is only on temporary "leave of absence." It will be back with its flexible strength, ease of handling, tight joints, long lengths and low installation costs. Asbestos-Bonded coatings and thick bituminous pavements will be back too—better than ever before—to guard against corrosion and erosion.

Meanwhile, can we assist with your drainage problems? The answer may be in the use of non-strategic materials, or in suggestions for repairing and salvaging older structures. Armco Railroad Sales Co., Incorporated, 3401 Curtis Street, Middletown, Ohio.

ARMCO ARMCO **EMERGENCY PIPE**

Wartime Passenger Demands

BRING INTO SHARP FOCUS



One of many New York Central reconditioned day coaches using Plymetl Panels for partitions throughout.

● The record-breaking passenger traffic occasioned by war is testing and proving many materials. Haskelite PLYMETL, for example, now is demonstrating in the most convincing way its many qualifications as a coach construction and rebuilding material.

This tough, strong metal-faced plywood panel is holding down and simplifying maintenance. It is standing up—as we knew it would stand up—under the extra wear and tear of inflated wartime traffic.

Its many other properties—light weight with great strength, easy fabrication, excellent appearance—are points to bear in mind when plans are made for post-war modernization, and the building of day coaches and luxury cars.

HASKELITE MANUFACTURING CORPORATION
208 W. Washington St., Chicago, Ill.
7310 Woodward Avenue, Detroit · · 405 Lexington Avenue, New York City

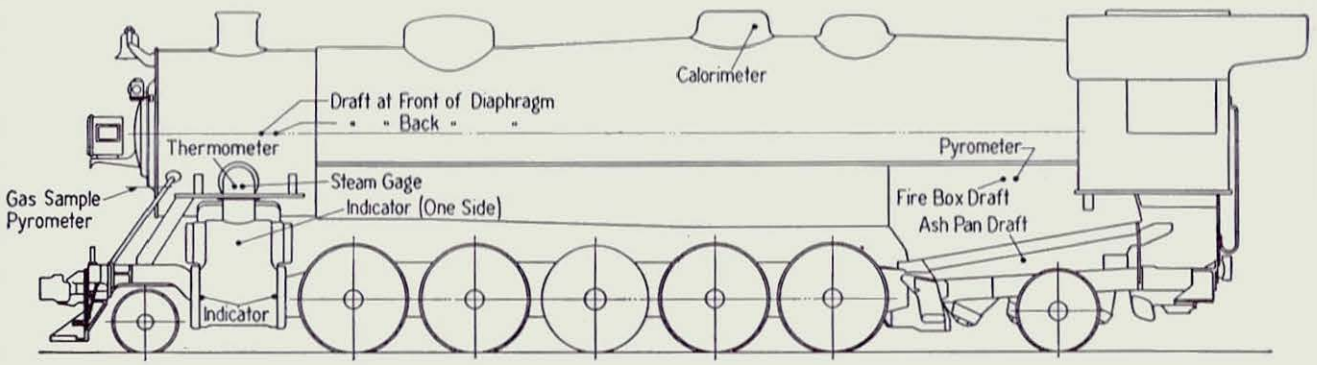
HASKELITE *Plymetl*

Now Ready

THE STEAM LOCOMOTIVE

By RALPH P. JOHNSON, M. E.

Chief Engineer, The Baldwin Locomotive Works



This is a complete treatise on the theory, operation and economics of the American steam locomotive. It is based upon current practice and recent research and material that has been tested out by the author and his co-workers. Comparisons are drawn with Diesel-electric and other types of motive power.

The author is a recognized authority on locomotive design, construction and testing. His experience in testing locomotives here and abroad with the aid of dynamometer cars is drawn upon for interesting observations on road testing methods.

To keep the subject matter as short as possible it has been stripped down to fundamentals, with just enough background included to indicate paths of development. The many tables have been checked against latest available data and the line drawings have been specially made for this book.

Sent on Ten Days' Free Examination

FREE EXAMINATION COUPON

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Please send me a copy of R. P. Johnson's new book, THE STEAM LOCOMOTIVE, on 10 days' free examination. I will either remit the list price of $3.50 or return the book postpaid.

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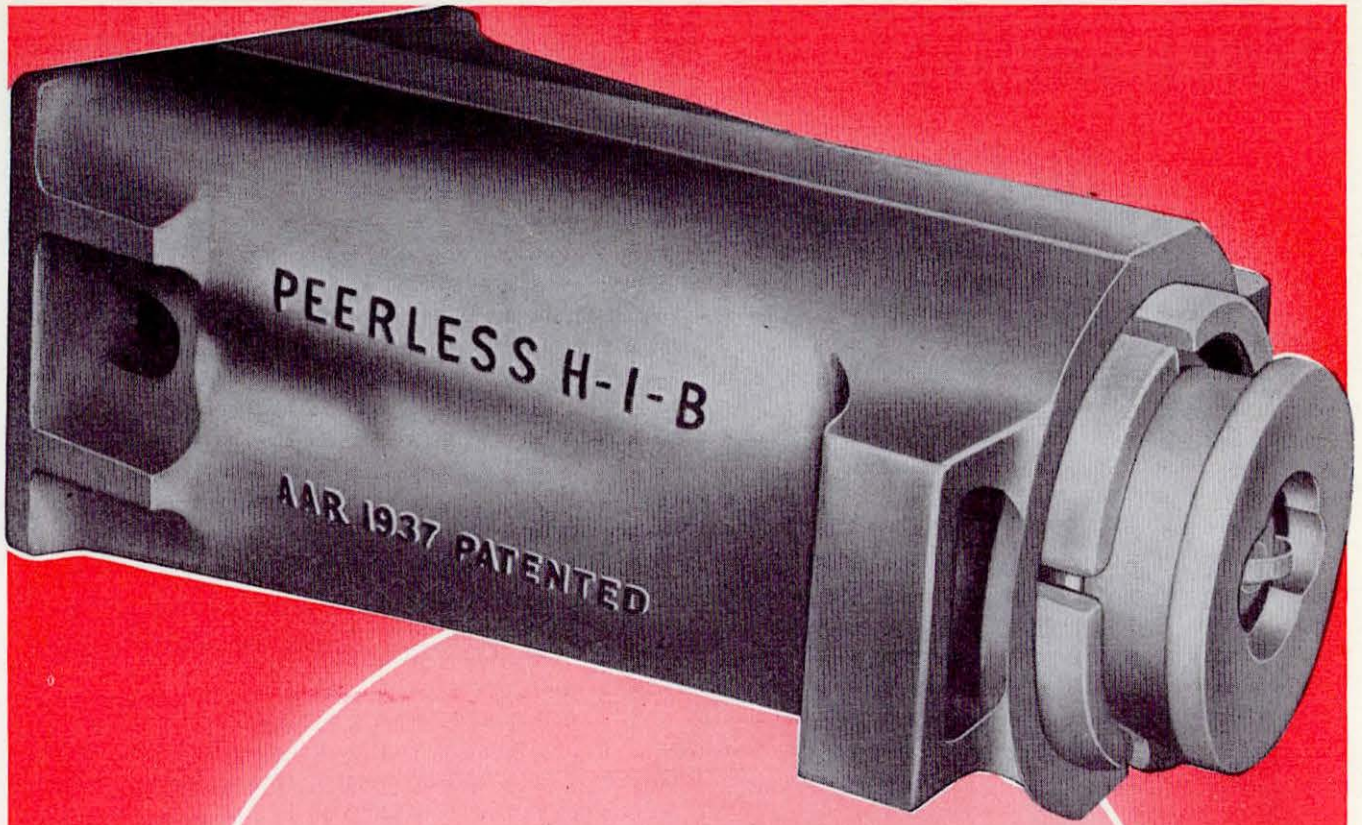
Table of Contents

Locomotive Classification—Locomotive Fuels—Combustion—Front Ends—Locomotive Cinders—Water for Boiler Use—Evaporation—Superheat—Tractive Force—Horsepower—Resistance—Tonnage Rating—Curves—Valve Gears and Valve Setting—Counterbalancing—Acceleration—Torque Diagrams—Locomotive Testing—Dynamometer Cars—High Speed Trains—Streamlined and Light Weight Trains—Motive Power for High Speed Service—Motive Power for Switching Service—Relation of Locomotive Operating Expense to Net Operating Income—Locomotive Repair Costs—Economic Life. Appendix A—Locomotive Testing Apparatus. Appendix B—Derivation of Economic Life Formula. Appendix C—Typical Locomotive Dimensions.

502 pages, 100 drawings and photographs, 70 tables, 6 x 9, cloth, $3.50



Peerless H-1-B Draft Gears

are A. A. R. Approved. The H-1-B Draft Gear is specifically designed to provide maximum protection to both car and lading under all traffic conditions.

Outstanding Features are: Light Weight, which permits a Heavier Payload and Rugged Construction for long-life, trouble-free service.

PEERLESS EQUIPMENT COMPANY

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HYATT SALUTES THE MAINTENANCE MAN—

He Keeps America's Rolling Stock Rolling

He expects no citation, but we are bestowing this one on him:

"For Meritorious Service In Keeping the Wheels of Transportation Turning."

HIS is a vital job. He may be Master Mechanic, Car Foreman, Master Car Builder, Shop Superintendent, Roundhouse Foreman... but whatever his title, he's a mighty important factor in America's all-out war effort.

He may not operate the railroad or design the equipment... but today when war materials and fighting men must be moved with dispatch, he's the fellow behind the scenes who keeps cars and locomotives rolling.

This unsung hero in Freedom's fight symbolizes a whole army of quiet, determined railroad men who are driving home the terrific power of American efficiency with cool but furious intensity.

We know him well... railroad's man of war. We've worked with him a good many years along with the many other railroad folks we contact regularly in our job of supplying anti-friction journal bearings.

It's he whom we salute... he who helps keep the wheels of transportation turning toward ultimate Victory!

Hyatt Bearings Division, General Motors Corporation, Harrison, N. J.

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RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PAPERS (A. B. P.) AND AUDIT BUREAU OF CIRCULATIONS (A. B. C.).

SUBSCRIPTIONS, INCLUDING 52 REGULAR WEEKLY ISSUES, AND SPECIAL DAILY EDITIONS PUBLISHED FROM TIME TO TIME IN NEW YORK, OR IN PLACES OTHER THAN NEW YORK, PAYABLE IN ADVANCE AND POSTAGE FREE. UNITED STATES, U. S. POSSESSIONS AND CANADA: 1 YEAR, $6.00; 2 YEARS, $10.00; FOREIGN COUNTRIES, NOT INCLUDING DAILY EDITIONS: 1 YEAR, $8.00; 2 YEARS, $14.00. SINGLE COPIES, 25 CENTS EACH. H. E. McCANDLESS, CIRCULATION MANAGER, 30 CHURCH STREET, NEW YORK.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

Vol. 113 November 21, 1942 No. 21

In This Issue

Page

Railway Passenger Transportation Vital to Ultimate Victory ***812***

A statement by spokesmen for the Army, the Navy and the general public, testifying to the importance of efficient transportation.

Railways Handle Record Movement ***814***

A summary of the several specific articles contained in this issue on the subject of passenger service efficiency.

"Rationing" of Passenger Service—Is It Necessary? Is It Practicable? ***819***

This article contains a statement by Director Eastman regarding his views on this important problem and also lists the results of a survey of the opinions of prominent passenger traffic officers all over the country.

EDITORIALS

Passenger Efficiency at Record High 809
How Record Traffic Has Been Handled 810
Safety in Passenger Service Maintained 810

PASSENGER PROGRESS SECTION

Railway Passenger Transportation Vital to Ultimate Victory ... 812
Railways Handle Record Movement 814
"Rationing" of Passenger Service—Is It Necessary? Is It Practicable? 819
America's Streamliners Go To War 825
War-Time Track Must Be Kept In Step with War-Time Traffic .. 830
Passenger Cars Used Intensively 835
Modern Power Carries the Burden of Today's War Traffic 839
Troop Movements Take Precedence 841
The Nation's Passenger Service Is Adjusted to War-Time Needs 844
Signaling Keeps Passenger Trains Moving During War Time ... 848

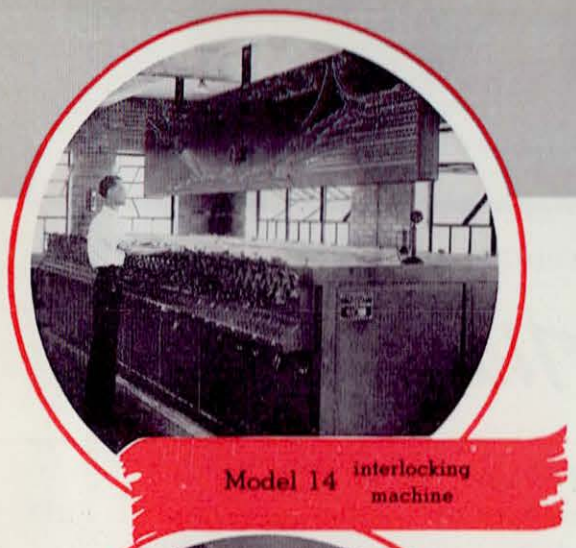
NEW BOOKS **851**

NEWS SECTION **853**

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

PRINTED IN U. S. A.

The Fundamentals of Interlocking *CANNOT CHANGE*



Model 14 interlocking machine

Unit-lever relay interlocking machine

UR relay interlocking machine

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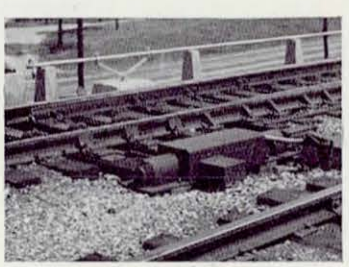
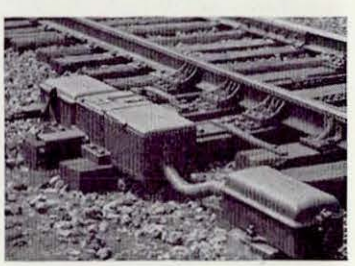


ELECTRO-PNEUMATIC
Switch and Lock Movement



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The Passenger Situation at a Glance

THE PROBLEM CHANGES: This issue comprises our annual survey of the problems and accomplishments of railroad passenger service. The importance of this aspect of railroad operation is greater now than ever—but the nature of the job has altered completely during the past year. For the time being, the task of management is not to inveigle customers into the cars, but to find cars enough for the customers. The entire editorial and feature section of this issue is given over to an examination of this huge and vital undertaking in all of its aspects. We are confident that this presentation will widen understanding of the nature of this job, and afford to the reader many suggestions as to what is needed that excellent performance may attain still nearer to perfection.

●

THE PATRONS' VIEWPOINT: "Nothing but complete co-operation and mutual understanding"—such has been the experience of the Army's Transportation Corps in its dealings with the railroads in the enormous movement of troops and their equipment. This is the report of Major General Charles P. Gross, head of the Transportation Corps, published herein. Rear Admiral Randall Jacobs makes a statement of similar import for the Navy. Commissioner J. Monroe Johnson reports that—recognizing that military travel "comes first"—the carriers are continuing to give satisfactory service to civilians.

●

INTENSE UTILIZATION: There are about 17,500 passenger coaches in service today and 6,800 Pullman sleepers—with parlor cars, total passenger-carrying equipment totals approximately 28,000. In 1920 the total was 42,000. With this decline in cars, the railroads are producing more passenger-miles than in 1920, and, on the whole, with much less inconvenience to patrons. The various expedients by which this more intensive utilization of equipment has been achieved are reviewed herein in an article entitled "Railways Handle Record Movement." Higher speeds, longer engine runs, heavier loading per car, elimination of poorly-patronized runs—are among the means employed.

●

TRIMMING THE FRILLS: Railway sales staffs have been converted from travel-developers to organizers to secure the maximum utilization of available facilities. "Luxury" cars have been pulled off and converted. Special staffs have been provided—especially at Washington—to see that officers of the forces traveling on duty receive their accommodations promptly. Advertising has been altered—to further the war program, rather than to foster competitive sales. These and other steps in the "wartiming" of passenger service are reviewed in an article on page 844.

●

USEFUL STREAMLINERS: The streamlined trains are no longer catering to luxury travel—but to people who have to get there as quickly as possible, to do their complete best in furthering the war program. A survey article in this issue lists the streamliners now in service, giving the number of such outfits under each name, the car-consist of each, the date the service was begun, and the daily mileage. While new construction of such equipment has been stopped, nevertheless 12 new streamliners are listed as having been added since our passenger issue a year ago.

●

STREAMLINER EARNINGS: You don't judge trains any more, primarily, from their effectiveness as earners—but rather from their output of transportation useful to the war. Nevertheless, comparative earnings figures do reflect comparative intensity of utilization—and a table of these published herein, for some of the principal streamliners, makes interesting and instructive reading. One of these trains has increased its per-mile revenue from $2.79 in 1940 to $7.29 this year. Another has climbed from $1.78 to $6. When it is considered how many miles these trains make in a day, it is evident that the managements who provided these trains deserve well of their security owners—as well as of the traveling public.

●

TO RATION TRAVEL?: Mr. Eastman's views on the desirability and the practicability of travel rationing are given in a statement by him, included in an article herein entitled "Rationing of Passenger Service." Thereafter, a canvass of the opinions on this question of passenger traffic executives in all sections of the country is presented. In general, informed opinion is opposed to such control—principally because of the magnitude of the staff which would be necessary to maintain it. Possibly, some such system may have to be instituted at a few points of greatest congestion. Some of the passenger officers suggest ingenious alternatives—one being that a surcharge be imposed on Saturday and Sunday, when the greatest congestion occurs.

●

EQUIPMENT INCREASE NIL: From 1916 to 1918, railroad passenger traffic increased 23 per cent—but the carriers got 5,136 additional cars with which to accommodate this increase. This year, traffic is running more than 100 per cent ahead of 1940—and there were only 431 new passenger cars acquired last year and virtually none this year. Faster handling at terminals has helped some—improved technical quality of the newer cars and their appurtenances has contributed as much, or maybe more. Factors in more intensive car utilization are the subject of one of the articles in this issue.

●

SIGNALS PLAY THEIR PART: One of the principal reasons why, with less equipment, the railroads are able to handle so much more traffic than during War I is the contrast between today's signaling with that of 25 years ago. The contribution of this branch of achievement to the over-all picture is reviewed, beginning page 848. These devices are accelerating trains, maximizing utilization of "tight" stretches of track, and contributing mightily to the high ratio of safety of present-day service.

BRUNT IS ON NEW POWER: The relatively small proportion of the locomotive supply which has been built since 1925 is the part which is enabling the railroads to produce their current near-miraculous performance. Such is the conclusion of the article herein which evaluates the role of motive power in the handling of wartime passenger traffic. Passenger locomotive-miles per locomotive-day were 120 in 1929; now they are 162—and the trailing load has risen from 7.3 cars in 1929 to better than 8.9 in 1942. More cars per train at far higher speeds is a job which, obviously, has devolved largely upon the newer power.

●

TROOP MOVEMENT: Just about 1,000,000 soldiers a month are being handled, in group movements, by the railroads (not counting Naval, Marine and Coast Guard travel, nor trips by individual service men either on government order or furlough). Records of World War I are being broken right along, as an article herein reveals, because of two conditions, viz., (1) there are more men in service now than then; (2) each soldier in the last war got an average of three train rides between induction and embarkation—as compared with six train trips at present. Moreover, speed and comfort of movement has been largely improved. In the last war, less than 25 per cent of troop movements were supplied with sleeping cars; this time the percentage is 66 (enough to serve practically all overnight movements, except in local emergencies).

●

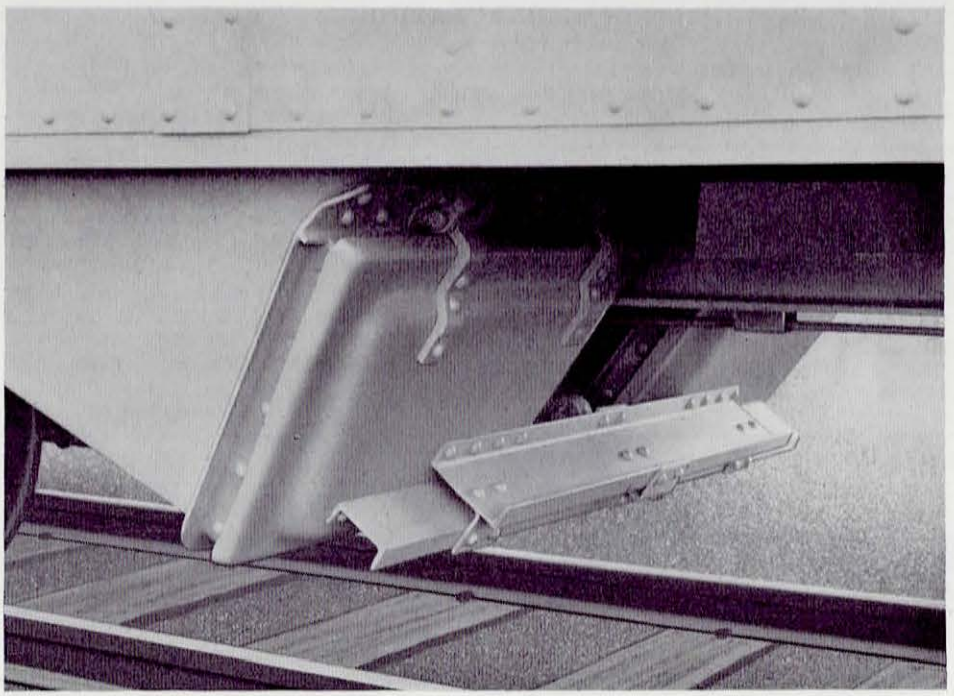
HOW TROOPS ARE HANDLED: The ability of the railroads to afford such superior service for troops arises from gradually-perfected organization, worked out in the closest co-operation with military authorities. An article herein describes this co-operative organization. All large movements are fully planned in advance, equipment provided and most advantageous routes selected. This job is not rendered any easier, either, by the fact that soldiers' equipment must go along with them. It takes 75 trains of 28-45 cars to move an armored division. And these movements will continue to expand.

●

KEEPING THE TRACK SAFE: Maintenance of way officers may justly take satisfaction in the job they have done so far in keeping the track up to the heavy traffic and high speeds which have been put upon it—but the outlook for the immediate future gives them deep concern. The government authorities responsible for the allocation of materials have not yet shown adequate appreciation of the fact that dependable railroad service isn't something which just happens—but has a physical basis which requires constant attention. Nor can it safely be overlooked that the present traffic boom came upon the railroads after a lean decade, when renewals were subnormal. Manpower promises to be as serious a problem as materials for the track maintenance officers.

DREADNAUGHT PAN DOOR

FOR HOPPER CARS



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Efficiency FOR VICTORY

Passenger Efficiency at Record High

The *Railway Age* in 1939, 1940 and 1941 published "Passenger Progress Issues." The present and corresponding issue for 1942 is called the "Passenger Service Efficiency Issue." This is not because there has not been progress within the last year, but because there has been a widely different kind of progress.

The problem the railways and Pullman Company were solving in 1934-1941 was that of getting passengers back on the rails. Their problem in 1942 has been that of handling the most largely increased, the most rapidly changing and complicated, and what will prove to have been the largest year's passenger traffic, in history. And that the progress made in speeding up and otherwise bettering passenger service in 1934-1941, by improving equipment, other facilities and operating methods, has made possible the extraordinary increase this year in efficiency in handling traffic, is conclusively shown by articles published elsewhere in this issue.

Travel by rail attained its previous maximum in 1920. Because of increased competition by highway and air, and of the depression, it had declined two-thirds in 1933. Despite expansion of general business and improvements in service—air-conditioning, streamlined trains, better coaches and sleeping cars, higher speeds—it was still only half as large in 1940 as in 1920. Stimulated by continuing improvement in service and by preparations for war, it became in 1941 twice as large as in 1933 and two-thirds as large as in 1920. Because stimulated further by war activities and decreased use of transportation by highway and air, it has risen to its 1942 record level. Its increase over 1941 in the first seven months of 1942 was 57 per cent; in July, 73 per cent. Its increase over 1940 in the first seven months of 1942 was 92½ per cent; in July, 112 per cent.

The number of passenger locomotives and cars declined in the Twenties owing to loss of traffic to other carriers; declined more in the Thirties during the depression; and passenger equipment has not since been increased because of government restrictions on materials. Nevertheless, the vast increase in passenger traffic has thus far been very successfully handled. How this has been done is indicated by statistics for July, 1920, 1929, 1940 and 1942 given in a table in the editorial on the following page, and is described in detail in the articles elsewhere.

Increase in demand for rail passenger transportation probably will accelerate in most of the country after new drastic restrictions on the use of automobiles are imposed December 1. There was recently considerable official talk of rationing travel; but this has been decided to be impracticable. Much more traffic can be handled if public and railways will co-operate to distribute it better throughout each week, throughout the year and over all available routes and trains. But apparently the total demand for service will in due course exceed the supply.

It becomes daily more questionable whether the War Production Board's policy of preventing the building of new passenger equipment should not in the public interest be relaxed. The railways make no complaint about it; the issue is one between the people and their government. But the situation puts the railways in an embarrassing position which makes it their duty to themselves and the public not only to provide the most and best service possible, but to acquaint the public with the reasons for present unfortunate conditions and to seek its forbearance and co-operation.

How Record Traffic Has Been Handled

July passenger traffic (passengers carried one mile) in 1942 exceeded that of any single month since 1920; was almost the same as in July, 1920; was 58 per cent larger than in July, 1929; and was 112 per cent larger than in July, 1940. As statistics in the accompanying table show, there were available 48 per cent fewer locomotives and 33 per cent fewer passenger-carrying cars than in 1920; 39 per cent fewer locomotives and 30 per cent fewer cars than in 1929; also fewer locomotives and virtually no more cars than in 1940. But this suddenly and greatly increased traffic was handled without much crowding of trains, because equipment, and also tracks, signaling, other facilities, and operating methods for utilizing equipment, were the most efficient in history.

Railway Performance in Handling Passengers

	July 1920	July 1929	July 1940	July 1942
Number of passenger locomotives	13,562	11,520	7,306	7,017
Number of passenger-carrying cars	41,564	39,472	27,592	27,706
Passengers carried one mile (thousands), average daily	154,871	97,230	72,374	153,693
Pass. train-miles, average daily	1,568,000	1,594,000	1,082,000	1,159,000
Pass. train-miles per locomotive, average daily	116	138	149	166
Passenger-carrying car-miles, average daily	7,008,000	7,256,000	4,892,000	6,271,000
Average miles per pass. car daily	168	184	177	226
Avg. pass.-carrying cars per train	4.5	4.6	4.5	5.4
Average passengers per car	22.1	13.4	14.8	24.5
Average passengers per train	98.7	61.0	66.9	133.0
Average trip per passenger, (individual railway)	41.9	44.8	57.2	79.2
Passengers carried one mile per locomotive, average daily	11,419	8,440	9,906	21,903
Passengers carried one mile per pass. car, average daily	3,726	2,463	2,623	5,547

There is much old equipment, including some long unused, which has been rehabilitated and restored to service; but there are also available many new locomotives and cars which are the best ever produced; and all facilities have been used with an intensiveness never previously approached.

Because travel by rail in July was larger than in any previous month in the present war period, statistics for that month best indicate the increases in efficiency which have enabled the railways to cope with its great increase. Passengers per car in July, 1942, as shown in the accompanying table, averaged 24.5. This was a large increase over 1940 and 1929, but—considering that virtually the same volume of traffic was handled with one-third fewer cars—a remarkably small increase over the July, 1920, average of 22.1. Each car rendered much more service in July, 1942, than ever before, with average passengers per car only about 10 per cent more than in July, 1920, because, on the average, last July each car traveled one-third more miles than in July, 1920—226 miles daily as compared with 168 miles in July, 1920; 184 miles in July, 1929, and 177 miles in July, 1940. Consequently, the average number of passengers carried one mile by each car daily last July—5,547—was more than twice as great as in 1940 or 1929, and 49 per cent greater than in July of the previous record year 1920.

The results secured from passenger locomotives were equally remarkable. Largely because of increase in cars per train, the average trainload of passengers last July was 133, as compared with 61 in 1929 and 99 in 1920. On the average, the number of miles each locomotive pulled trains daily was 165, as compared with 148 in 1940; 138 in 1929; and 116 in 1920. Consequently, each locomotive rendered a daily service equivalent to hauling 21,900 passengers one mile—more than double the average service each locomotive rendered in July, 1940, and 1929, and almost double that rendered in July, 1920.

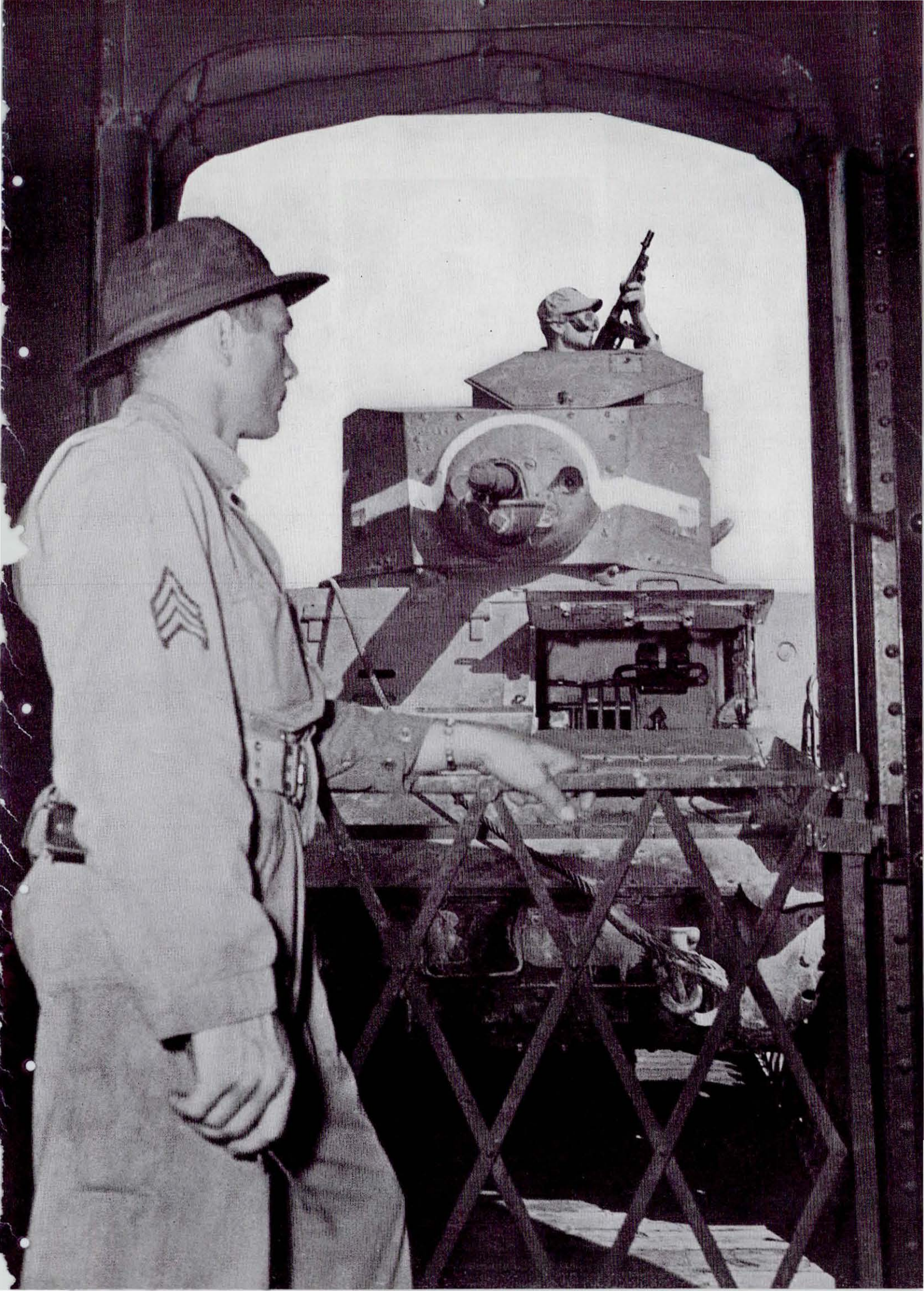
Safety in Passenger Service Maintained

One of the most creditable and remarkable features of the performance of the railways in handling the vastly increased passenger traffic of the last year has been the record of safety made.

It was formerly considered almost axiomatic that proportionate or even more than proportionate increases in accidents would be caused by large increases in traffic and train movement. The increases in freight and passenger traffic and in train movement during the last two years, and especially the last year, have, by comparison, dwarfed all others. And, because so much more of the train movement has been military, and even emergency, has included completely unprecedented handling of troops and their entire equipment on the same trains, and the transporting of almost 70 per cent of troops in sleeping cars as compared with only 25 per cent during the last war, the traffic has presented entirely novel complications and problems making the maintenance of safety extremely difficult. In view of these facts, the safety record thus far made in carrying passengers, has been remarkably good.

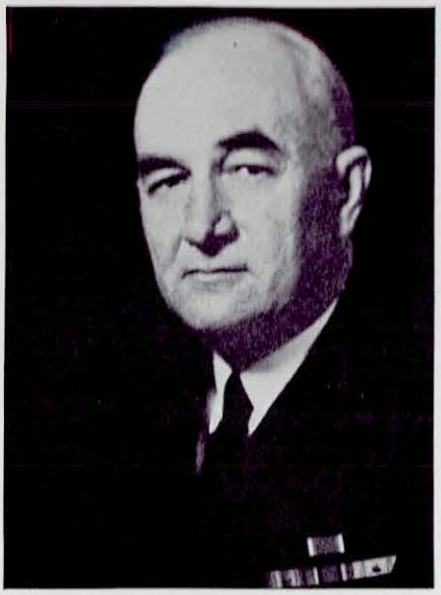
When the previous record passenger traffic was handled in 1920, the number of passengers killed in the entire year was 229 and the number injured 7,591—one killed for each 205 million carried one mile; one injured for each 6 million carried one mile. In the entire year 1929 there were 114 killed and 3,846 injured—one killed for each 273 million carried one mile; one injured for each 8 million carried one mile. In the first seven months of 1942 there were 51 killed and 2,269 injured—one killed for each 496 million carried one mile; one injured for each 11 million carried one mile. This was a record of safety in carrying passengers more than twice as good *absolutely* as that of the year 1920; about 80 per cent better *absolutely* than that of the year 1929; and, considering all the conditions, unquestionably the best record *relatively* in history.

There is no better measure of the efficiency of personnel, equipment, other facilities and operating methods than the accident record. Railway efficiency in the transportation of passengers, measured by that as well as other standards, has thus far this year been the greatest in history.



U. S. Army Signal Corps Photo

Major General Charles P. Gross



Rear Admiral Randall Jacobs

Commissioner J. M. Johnson

Railway Passenger Transportation Vital to Ultimate Victory

Spokesmen for the Army, the Navy and the public testify to the importance of efficient transportation

THE movement of soldiers, sailors, marines and coast guards ranks equal in importance to ultimate victory with the transportation of war materials. Essential civilian traffic comes next in the order of importance. Railway passenger service simply must be kept up to its present efficiency and there's only one way to accomplish this—through complete co-operation and co-ordination among all the agencies involved. The three men whose statements are given below were selected as the representatives of the outstanding customers of railway passenger transportation—the Army, the Navy and the public.

From the Army

By Major General Charles P. Gross, Commanding, Transportation Corps, Services of Supply, U. S. Army

Mass movements of troops by rail are now taking place in this country, which for numbers and distance traveled are unprecedented in our history. We are fighting on a global front; we are fighting a technical war; both of these facts render the present picture of military movements far more complex than in World War I when, in general, recruits moved from their homes to training camps and thence to the Atlantic seaboard for embarkation. Today, the requirements of technical training and many other causes require that the average recruit make approximately five trips by rail before reaching the port of embarkation, and such ports are now not confined to a limited area on the Atlantic Seaboard, as was the case in our last war, but have a nation-wide geographical distribution. Further, the modern theory of troop movement, well-tested in this war, is "not to separate a soldier from his gun" and this means that in movements of large groups, the freight car takes equal importance with the passenger car so far as troop trains are concerned.

It was to handle this complex and many-sided problem that the Transportation Corps was formed. Since its inception, nothing but complete co-operation and mutual understanding of the problems involved in moving troops has been experienced from the railways. They have done a remarkable job and there is every indication that they will continue the excellent performance. We of the Transportation Corps will con-

tinue to render every assistance possible—so that the vital job will be done—and done satisfactorily.

Every credit is due to the men on the "firing line," the train and engine crews and those who supervise them, for making this gigantic undertaking possible.

From the Navy

By Rear Admiral Randall Jacobs, The Chief of Naval Personnel, U. S. Navy

Rail transportation of officer and enlisted personnel of the Navy is far more important and involves the movement of many more men than is generally realized. Our officers move as individual passengers, often on transcontinental trips, and the number of passenger miles involved, both as to duty and furlough travel, is considerable. The Navy, the Marine Corps, and the Coast Guard recruit many thousands of men at interior points and these must all be transported to their training centers. Such centers, even at inland points, frequently contain as many as 30,000 men, and the passenger movement in and out represents a considerable total of cars and special trains. Navy schools have been established at many interior and coastal points and the movement of students and officer candidates to these schools and of graduates leaving them for posts of duty is constantly in progress. The rail transportation of Navy personnel has reached an all-time-high—the figures amount to a sizeable total—and railway passenger service is more important and essential to the Navy than it ever was.

The transportation division of the Bureau of Personnel has been and will continue to work very closely with the railways in solving the problems arising as the result of movements from place to place about the country of officer and enlisted personnel. More than ever, the present situation requires the complete and unhesitating co-operation of everyone, civilians and armed forces alike, so that the War may be brought to a successful conclusion.

In co-operation, we have found the railways to be excellent team-mates in solving the problem of passenger transportation. We hope this co-operation will be continued and we are sure it will. Everyone on the railways connected with the movement of passengers is to be congratulated on a splendid performance under extremely difficult and unprecedented conditions. Keep up the good work.

For the Public

A Statement by J. Monroe Johnson, Interstate Commerce Commissioner

In war as in peace, railway passenger service is vital to the needs of this great country of ours. In peacetime the railway passenger has enjoyed every imaginable comfort, luxury, and complete and thorough consideration for his welfare as a paying guest. Wartime brings a different aspect to railway passenger service; the needs of our armed forces come first!

In saying this, I do not underestimate the importance of a part of today's civilian travel. The transportation of brains is as important in the war effort as the transportation of material. But I repeat that, in time of war, the needs of our armed forces come first. If necessary, the executive must stand in line at the dining-car door until the soldier is fed. He must also occasionally take an upper berth instead of a drawing-room that some soldier, be he colonel or private, may have a comfortable sleep en route to a port of embarkation, whence he will sail to the ends of the earth, there to fight our battles.

This is the American way. This is democracy in action. I am proud to say that the executives and other representatives of our traveling public are accepting the situation without complaint as part of their contribution to the war effort.

Civilian passenger service must necessarily be put on a war basis for the duration. With this thought firmly in mind, it is not unusual these days to see a transcontinental streamliner and its passengers uncomplainingly occupying a siding while a troop train or a trainload of vital materials rolls by on the main line.

Military needs, first to be considered, are being excellently served by our railroads and, in the circumstances, they are caring for a patient and considerate civilian passenger clientele in a manner equally satisfactory.

Food and fuel... and freedom from fear!

WE AMERICANS call it our birthright. The right of our children to have everything they need to grow strong in body and mind. The right of our families to live in healthy, heated homes. The right of mothers and fathers to smile, confident of the future, free from the fear of want and oppression. These are the rights we *NOW* have . . . the rights we will *continue* to hold no matter what other sacrifices must be made to win the war.

* * * * *

To maintain these rights and keep our Home Front strong, America's railroads will continue to devote their efforts and resources. In spite of the tremendous added burdens of wartime, the Home Front will be supplied as completely as possible, while the millions of men in camps throughout the land are fed, clothed, equipped and moved.

Far greater quantities of milk, for example, must now be transported by rail as well as canned goods and tropical products that once were shipped by water. Meats, vegetables, fruits and other perishables must be delivered from farms and packing points on schedules as punctual and dependable as those of regular passenger trains.

Oil shipments from West to East have been increased from about 11,000 barrels per day before that first Sunday in December to over 800,000 barrels per day at the present time. Coal, too, that once moved mainly by boat is now being handled by the railroads in ever increasing quantities. One-third of New England's coal needs were supplied by rail in 1941. Three-fourths or more will be supplied by rail in 1942!

All-out cooperation among railroads, shippers and the government, has enabled the railroads to do vastly more work than in the last war and do it without confusion or delay . . . to take care of military freight shipments five to six times larger . . . passenger travel that has more than doubled . . . absorb the added burdens brought on by greatly reduced coastal shipping and truck transport . . . and still supply the Home Front with food and fuel . . . and freedom from fear.

* * * * *

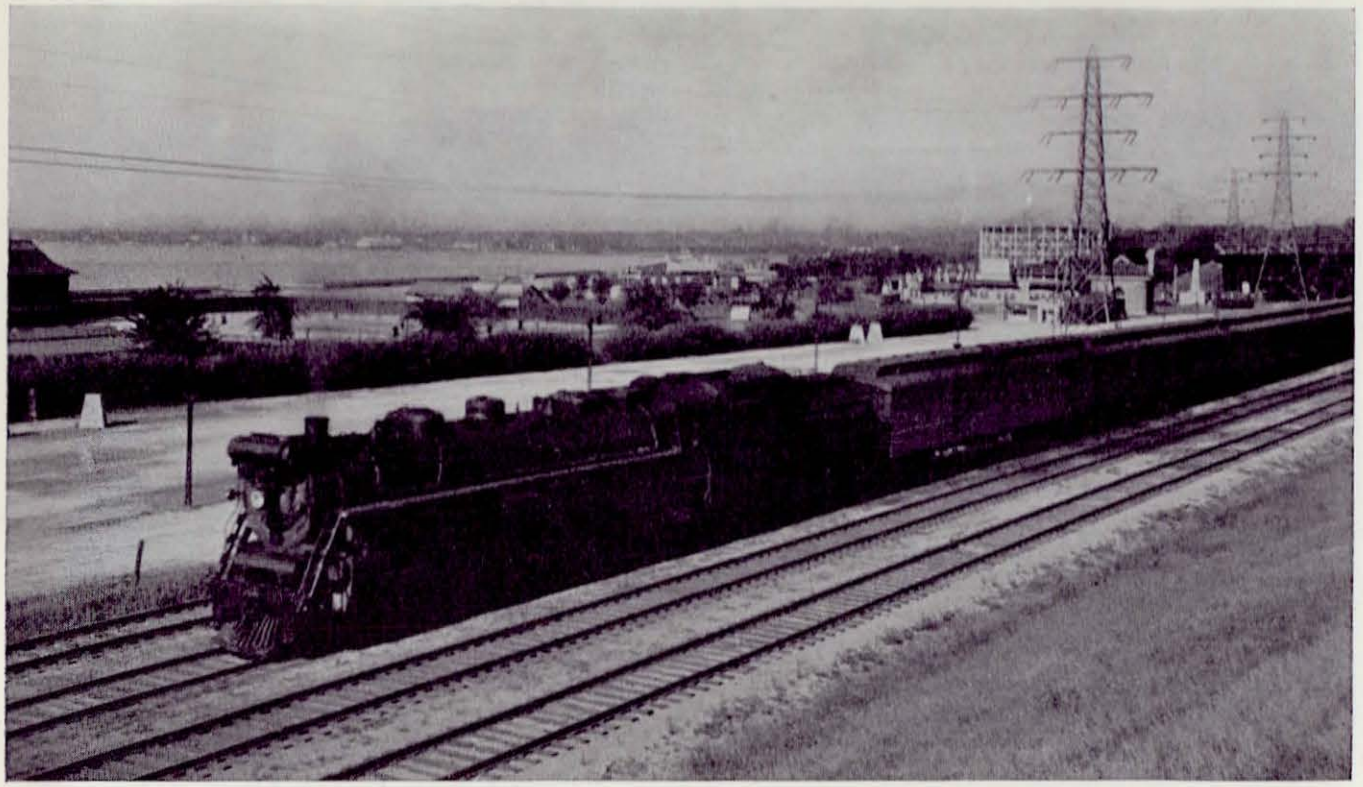
The Lackawanna is playing a loyal and efficient part in this service rendered by the American railroads. In addition to all other traffic, thousands of coal cars are being loaded and dispatched to vital centers direct from the great anthracite coal fields that lie along its lines, thus helping to "keep the home fires burning" in this almost incredible speed-up of essential wartime transportation.

Lackawanna Railroad

One of America's Railroads — All Mobilized for War

Lackawanna Railroad

The Railroads Are Now Using Advertising, Not to Attract Competitive Traffic, But to Promote Co-operative Effort for Victory



Steam Passenger Locomotives, Which Averaged Only 200 Miles Per Run During the Last War, Are Now Frequently Making 1,000 to 1,500 Mile Runs

Railways Handle Record Movement

With one third fewer passenger cars, they are now handling more passengers than in the peak year of 1920

IN ancient Egypt, the Hebrews were commanded to make bricks without straw. In modern America, the railways face the necessity of handling a greater number of passengers than they ever handled before, with far less equipment than they have had in any recent year; furthermore they are facing the prospect of still further increases in passenger travel with almost no prospect of getting more equipment. And the railways are accomplishing this gigantic task. At certain times, in certain localities and on certain trains, passengers are required to stand; the smooth, luxurious service of only a year ago may no longer be quite up to standard; trains are not always on time; but they do carry passengers where they are going and they are also meeting the military and public needs for rail passenger transportation in a time when those needs are vital to the welfare of the nation. It is to the continuance of this vital service under impending conditions that promise to be even more adverse and to pay tribute to the ingenuity and sweat and labor of the railway officers and men who have made this achievement possible that this Passenger Service Efficiency issue of the *Railway Age* is dedicated.

There are approximately 6,800 Pullman sleeping cars and 17,500 passenger coaches in railway service today. About 40 per cent of the sleeping cars and 15 per cent of the coaches are now engaged continuously in moving troops and the armed forces have first call on all the rest. When parlor cars are added, this brings the present total of passenger-carrying cars to about 28,000, as compared with some 42,000 in 1920. Despite this disparity in equipment, the railways are handling more passenger miles this year than in 1920 and conservative estimates indicate that the 1942 total will approximate 50 billion, the largest in railway history. The total ownership of passenger locomotives is also materially less than it was in 1920, although since that date the construction and use of locomotives in both passenger and freight service has become so widespread that no definite figures are obtainable with regard to the number of passenger locomotives as such. Their greater utilization is indicated, however, by the fact that, whereas during the last war, the average run of steam passenger locomotives was only 200 miles, runs up to 1,000 miles with steam locomotives are now quite prevalent. The Santa Fe, for instance, regularly operates a steam locomotive on a run of 1,788 miles while Diesel-electric locomotives in passenger service now run through from Chicago to the Pacific Coast in regular service daily.

How It Was Done

This amazing accomplishment of handling many more passengers with much less equipment has been made possible by hard work and careful planning on the part of railway officers. It was made possible, too, by the

technical advances in car and locomotive building and maintenance which enable passenger rolling stock to spend a greater part of its time in actual service rather than in the shops. The railways are also obtaining the maximum utilization of the nation's passenger equipment by frequent transfers of cars from one road to another to meet peak loads. In addition, more extensive regular interchange of passenger equipment and the establishment of long distance through coach and Pullman service are much more prevalent now than in 1920, and all these have contributed to increasing the miles per day per passenger car.

Higher speeds and drastic revisions of regular car assignments have permitted quicker turn-arounds of equipment. Before the installation of air-conditioned equipment, only a few passenger coaches were operated under definite assignments. When coaches so equipped were relatively few in number, they were definitely assigned so as to secure the maximum utilization from them and this system worked out so well that it was continued even after the majority of coaches were air-conditioned. The increased average speed of passenger trains has been so widespread and has extended over so many years that its importance and scope are not generally appreciated. Better equipment, heavier rail and improved roadbed have stepped up speeds gradually over the years since 1920 and the cumulative effect has had much to do with the greater utilization of cars. Examples are numerous. For instance, on the main line of the Atlantic Coast Line, the maximum speed in 1920 was 50 m. p. h., whereas today a speed of 90 m. p. h. is permissible for Diesel-electric powered trains. There are dozens of other railways with similar records.

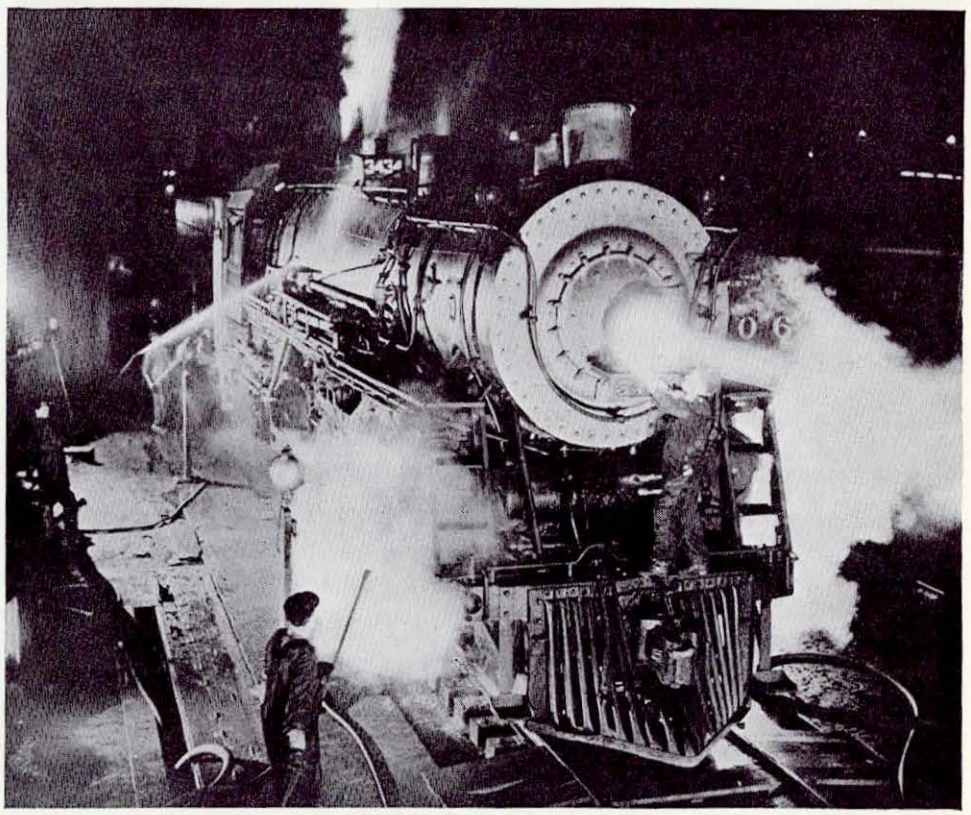
Wartime traffic has brought about the lengthening of the schedules of many trains, but, on the whole, passenger trains are still running much faster than they did in 1920 and, in many instances this, plus improved terminal handling, permits a quick turn-around of equipment that would not be possible under slower schedules. For example, the Peoria Rocket of the Chicago, Rock Island & Pacific is turned at Chicago and started back to Peoria in 35 min. on one of its runs. The Florida East Coast turns the Chicago-Miami streamliners in 1 hr. 40 min., and the Miami-New York streamliners are turned well within six hours at New York.

Re-arrangements of passenger car assignments and the elimination of much of the stand-by equipment formerly considered necessary have also increased the railways' passenger-carrying capacity. Formerly, seven sets of equipment were required for the Chicago-California Exposition Flyer and the set of equipment arriving in Chicago at noon of one day did not depart until noon the next day. Now, however, the Burlington uses this equipment for overnight runs to Omaha or the Twin Cities and the cars that come in from these points in the morning are sent West the same noon.

Under previous stand-by equipment arrangements, if a car arrived in bad order, it was replaced by a stand-by car for at least one round trip until it was repaired. Now it is repaired at once and continues its regular schedule. Similarly, when an extra coach was needed to handle passengers to some intermediate station, this coach was usually carried through to the final terminal of the train to avoid switching en route. Today, such coaches are switched out as soon as they are no longer necessary and returned from the intermediate station within a few hours on some other train.

Greater Average Load

A much greater average load per car in both coaches and Pullmans has also been a major factor in increasing capacity. On many lines with co-ordinated service, buses have replaced steam trains on short runs, releasing equipment for longer runs and greater utilization. The use of modern all-steel coaches with high average seating capacity in place of the large number of wooden coaches of relatively small capacity that were in use in 1920 has also meant greater capacity per coach. Furthermore, since 1920, a large number of local passenger



Prompt Handling of Passenger Locomotives at Terminals Has Increased Their Utilization Materially

Service Gangs Swarm to Cars Shortly After Arrival to Get Them Ready for Quick Turn-Arounds

trains, operating on slow schedules, has been discontinued. These required an unduly large number of passenger-carrying cars for handling relatively few passengers for short journeys, as compared with the present handling of large numbers of passengers on through trains for much greater distances. For example, despite the increased traffic, the Union Pacific has reduced its regular passenger train miles nearly 3½ million per year. This has been possible by an increase of over 100 per cent in the average load per train brought about by these factors.

Much study is being given to getting the maximum utilization of existing equipment by changing its character to produce more usable seats. The amount of non-revenue space of the luxury type has been drastically reduced and seats are being sold in both railway and Pullman lounge and club cars. The Illinois Central has been particularly active in increasing its passenger capacity and is now engaged in rebuilding and restoring to service 16 coaches which had been set aside as unserviceable for some time. Following the discontinuance of certain parlor car lines, seven I. C. parlor cars are being converted into coaches, with much greater seating capacity. Benches have been installed in the baggage cars of ten compartment coaches to increase their capacity for short-haul labor movements. The discontinuance of lightly patronized trains has released 28 passenger-carrying units and the elimination of passenger coaches on what were formerly mixed trains has released 40 more units for service where the need is great. Similar savings have been made on other roads.

The average distance each passenger is being hauled has showed a steady increase practically ever since 1920. In 1941, a marked pick-up in this trend was evident and this has continued in 1942 at an even more accelerated pace. Recent figures are hardly comparable with peacetime figures, however, as they are being distorted for comparative purposes by the long-haul troop movements. Actually, in practically every locality, the tire shortage is bringing many short-haul passengers back to the rails. The gas-rationing in the East has also produced a perceptible increase in the trend in this direction and, while the effects of the nation-wide gasoline rationing cannot yet be measured, undoubtedly it, too, will have the same results but on a vastly larger scale. These conditions are exemplified by the Reading, where the hauls are relatively short and in a territory that has hitherto been highly susceptible to automobile and other highway competition. On this railway in August, normally a light month, more than twice as many local revenue passengers were carried one mile (26,756,956) as in the pre-war and pre-defense period, the average per month in 1940, for example, having been 13,077,560.

Interesting trends are perceptible in the figures of several railways. On the New York Central in July, 1942, the number of Pullman passengers handled was 375,426, an increase of 74.4 per cent over July, 1941, while coach passengers totaled 2,556,480, an increase of 45.3 per cent. However, the increase in passengers carried one mile was only 53.1 per cent for Pullman as compared with 76.8 per cent for coach, while the average distance traveled by Pullman decreased 12.2 per cent as against an increase of 21.7 per cent in the average distance traveled by coach passengers. On the Pennsylvania, there has been a substantial increase of all types of coach travel, particularly of long distance travel, and the average haul is increasing rapidly. On this road Pullman travel has so accelerated since the outbreak of the war that it is now showing a greater proportional increase than coach business. This is a complete reversal of the trend prior to December, 1941.

On the Illinois Central, comparing July of each year, the upward trend is particularly evident. The average distance traveled by passengers has increased from 142 miles in 1939 to 153 in 1940, to 168 in 1941 and to 175 in 1942. Meanwhile, the figures for August reveal a

greatly increased coach travel, for it has amounted to 62.9 per cent of the total in 1942 as against 57.1 per cent in 1941. On the Missouri Pacific, first-class travel has increased 40 per cent over the 1940 level, whereas coach travel has increased over 100 per cent.

During the first six months of this year, excluding military and other group government business, the Southern Pacific showed an 11.3 per cent increase in local passenger revenues as compared with 1938, while the inter-line revenues, representing long-haul business, increased 20.6 per cent. Including military business, the local passenger revenues for the first six months were 32.3 per cent of the total revenue, as compared with 47.9 per cent in 1938.

Including military traffic, the Louisville & Nashville showed an increase of 49.1 per cent in coach passengers carried during the first six months of this year, as compared with the same period in 1941. Pullman travel increased 67.3 per cent, largely accounted for by troop movements. On the Baltimore & Ohio, Pullman passengers carried one mile show about 100 per cent increase in recent months, as compared with a 50 per cent increase in coach business. For the first six months of 1942, the average haul per local passenger on the Chesapeake & Ohio increased 6.2 per cent and for interline passengers 16.1 per cent. Local business increased 43 per cent and interline business 74 per cent, the percentage increase in the number of coach passengers being approximately double that of Pullman passengers.

On the Great Northern, local passenger revenues are frequently showing increases of as much as 100 per cent in certain weeks. Not including the transportation of special troop trains or cars, the westbound coach business on the Northern Pacific increased 148 per cent in the first seven months of this year as compared with 1941, tourist Pullman passengers increased 73 per cent, and standard Pullman passengers 53 per cent. The eastbound increases were materially less, being 61 per cent for coach, 5 per cent for tourist and 34 per cent for standard sleepers.

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On May 18, also, the Car Service division appointed a manager of a newly-formed passenger car section. This section has devoted most of its time to increasing the passenger-carrying capacity of the railways. This has been done by various means, one of the most important of which was combing the country constantly for equipment not in use and transferring such equipment to other railways where the need was urgent. The A. A. R. has been preparing monthly analyses of the equipment and trains eliminated by various railways in the interest of using such equipment where it would be of considerably more value. A study of these statements shows that 200 coaches, with a total seating capacity of 14,544, were transferred from lightly patronized service to heavy traffic runs in the first eight months of 1942. Through the elimination of trains or re-adjustment of service, 21 parlor cars, 189 sleeping cars, 114 club, lounge and observation cars, 46 diners and 6 passenger-carrying cars have been released, in addition to 36 rail motor cars, with a seating capacity of 2,226. Train miles eliminated amount to 28,447 per day and passenger car miles per day to 253,525. Of course, several of the coaches released from such secondary services are not suitable for main-line service, but uses can be and are being found for almost any type of coach, including several wooden coaches. The release of these cars, plus an additional 193 units of head-end equipment, has resulted also in the release of 116 steam locomotives and 13 other locomotives for more useful purposes.

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By efficient operation, including higher speeds, quicker turn-arounds and a variety of other methods and devices, the nation's rail passenger-carrying capacity has been increased materially. Better equipment of recent years, that stands up under the necessarily hard treatment it is receiving without the necessity of frequent shopping has also contributed to this end. The number of lightly patronized trains already eliminated have in-

on the part of the public to the end that voluntary curtailment of travel will result.

"Before attempting to impose controls, I think that all of us who have responsibilities in connection with war transportation—whether they are government responsibilities or operating responsibilities—should give the American people the facts about travel in war time and should urge them to use transportation sparingly and in a manner which will not prevent the railroads from completing their thus far successful full contribution to the war effort.

"As a specific first step, I suggest a typically American program which informs and appeals for public understanding and help. Several such efforts have come to my attention. I am reluctant to attempt to impose controls or rationing until a fully informed and understanding American people have demonstrated that they do not intend to contribute voluntarily to the war job which the railroads and other carriers are doing. I believe that all of us concerned in passenger transportation have a prior obligation to point out the need for that contribution."

What Passenger Traffic Managers Think

Actually, the much-used term "passenger service rationing" is a misnomer. The immediate question is not rationing in the true sense of the word but rather passenger service control. As a further contribution to the solution of a vexing question, a survey has been made by *Railway Age* of the opinions of prominent passenger traffic managers on this subject. Since the circumstances and conditions surrounding passenger transportation are by no means identical in different parts of the country, these opinions have been grouped geographically—East first:

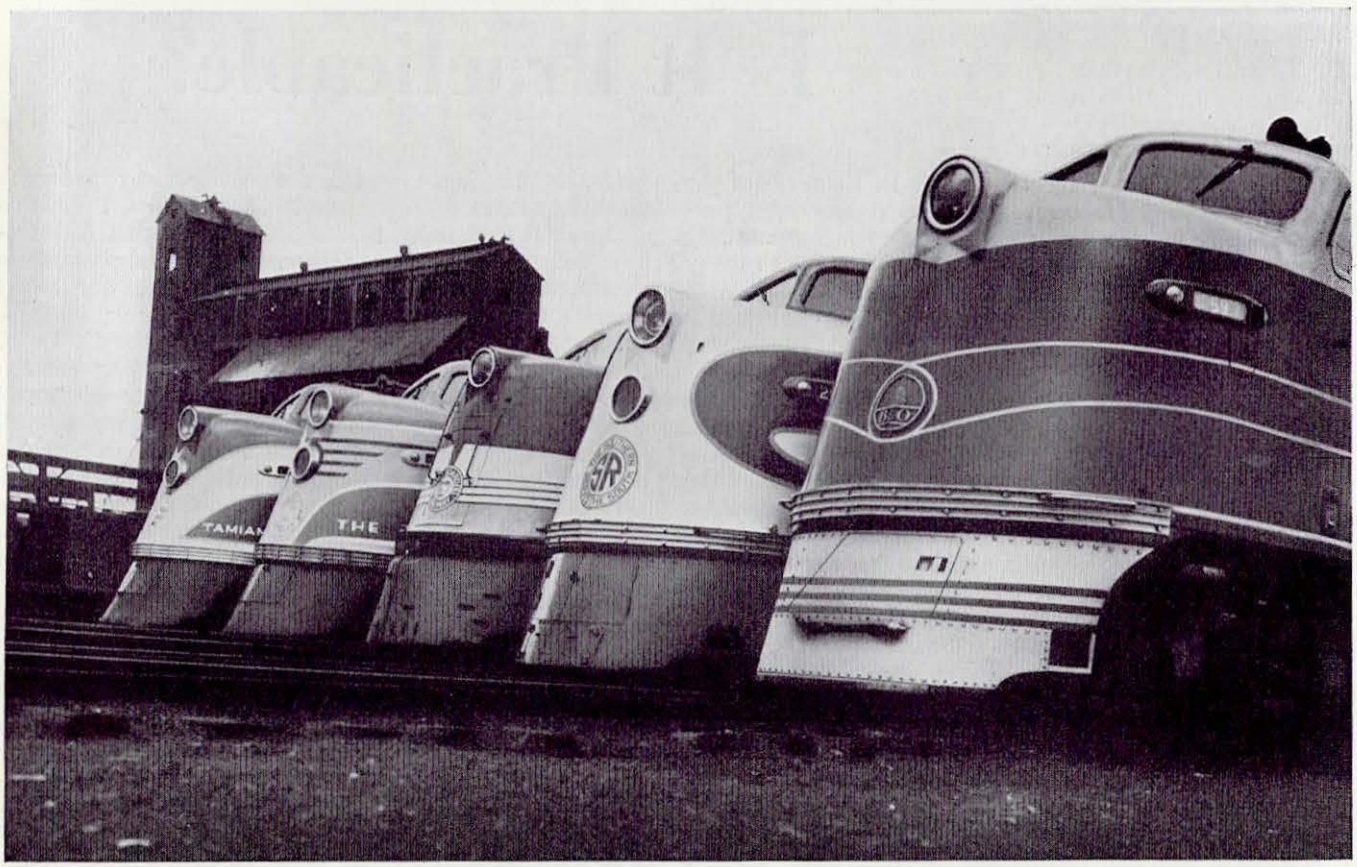
"The rationing of passenger transportation will result in serious delay to passengers at ticket offices as well as in a great deal of burdensome clerical work in handling the rationing system, whatever its nature may be. It will also be wasteful of transportation facilities, as has been proved with the air lines which are currently advertising for business because the rationing of their space has resulted in keeping passengers away. The roads individually are best able to determine what transportation they have available and how the space should be used most advantageously, and it would be very much better to allow control of the situation to rest with them."

"I do not believe it is practical, and even consider it impossible, to ration passenger transportation and have other than public chaos. It is only necessary to follow the trip of any through train from the eastern seaboard to Chicago or St. Louis and note the originating points and destinations of the passengers who use that service, to realize that to try and say who can and who cannot go, when they can go and how far, would require an army of policemen. Furthermore, I see no necessity for it at present."

"If the demand for passenger equipment for military purposes should continue to increase, as we are led to understand will be so, and if the rationing of gasoline is spread throughout the country, it seems to me that some sort of priority for passenger travel will eventually be necessary. This may quite properly apply to travel in Pullman cars rather than coaches at the outset."

"We believe that in the interest of public morale, the rationing of passenger service should be deferred as long as possible, and then confined only to points between which traffic has reached such volume that it cannot be handled adequately."

"With the exception of comparatively few Eastern and Southern lines which have been called upon to handle a large volume of military traffic, it is not my impression



This Group of Diesel-Electrics Helps Relieve Congestion Out of Washington

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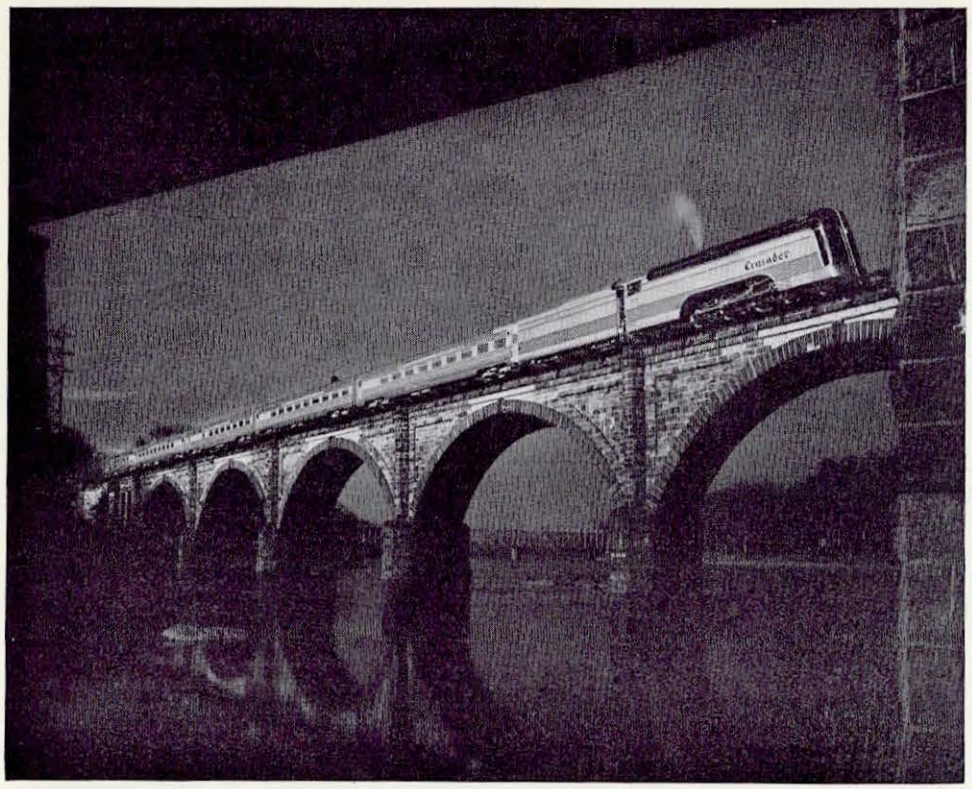

The Streamliners Add Materially to Quick Turn-Arounds and Maximum Utilization

creased the capacity and those that can be eliminated in the near future may still further increase it. The elimination of unnecessary cross-haul military movements will probably add to this capacity if this can be accomplished without conflicting with military strategy. An extension of the action of some railways in restricting or prohibiting the use of passes during the Thanksgiving, Christmas and New Year holidays is a step that should be expanded further, because, of all people, railway officers and employees should be the first to realize the critical nature of the situation and avoid unnecessary travel.

With the exception of certain critical points, these methods and means have so far been effective in keeping railway passenger service functioning effectively, if not always comfortably, but the future presents an intensification of all the problems now facing the railways. The recent announcement of a goal of 7,500,000 men for our Army in 1943 presages increased troop movements. The stepping-up of war production carries with it an increase in essential civilian travel and War seems to increase the restlessness of the general public and the urge to move from place to place, entirely apart from necessary moves of agricultural and war-plant labor. Thus, increased passenger traffic seems inevitable and the prospect brings with it inevitably suggestions as to the rationing of passenger travel. Another article in this issue deals with this subject exhaustively and is the first thorough airing this vital subject has received. Suffice it to say here that the evidence seems overwhelming that any governmental rationing is practically certain to result in chaos and an appalling waste of manpower in attempting to police it.

This, however, is a question of the immediate future and applies only for the duration and shortly thereafter. It is perhaps pertinent to speculate, however, as to what will happen when and if the War is won and millions of troops come pouring back into this country, all eager to get back home. That will indeed be a troop movement to reckon with!

As to the more distant future of railway passenger traffic—the post-war period—railway officers have food for thought of the most serious nature. The immediate threat of highway competition probably will not again assume serious proportions until some years after the War, unless the production of synthetic rubber and its effective use become an important factor from a civilian standpoint. So far as private enterprises are concerned, the rubber shortage is likely to continue until the Asiatic plantations are brought into full production again.

In airplane competition, the picture is quite different. Military planes are not suitably constructed for commercial passenger purposes—for one thing their landing speed is much too high to be considered safe and practical. However, the plants for building airplanes will be here in large numbers, plus the men to man them and, when the materials are again available for general use, airplane production for commercial use far in excess of anything in previous industrial history may be expected. Moreover, the public is growing more and more air-minded every day. These are factors that must be reckoned with. The ability of the railways to quote lower fares than air travel can economically justify will probably continue; but, so far, the only answer to such competition has been found in the lightweight, high-speed trains, whose astonishing development the War and the shortage of materials has abruptly halted. An article on the streamliners elsewhere in this issue portrays the success of such trains in meeting competition.

In contrast to the increasing air-mindedness of the general public, the railways today find themselves in an advantageous position. A huge percentage of the nation's population is being forced to ride on trains. The impression thus created will have a great deal to do with how these people re-act in the post-war choice of transportation. Many of the refinements and some of the comforts of train travel have had to be sacrificed to meet the emergency. Courtesy, however, is not among these and one of the most effective means of making this vast multitude of new train-riders rail-minded is to insist that they receive courteous treatment and educate the employees to this necessity.

A Busy Scene That Is Repeated Daily in Our Large Passenger Terminals

"Rationing" of Passenger Service—Is It Necessary? Is It Practicable?

FOR some time, Director Joseph B. Eastman of the Office of Defense Transportation has been predicting that railway passenger-carrying capacity was approaching its limit. This has given rise to many conjectures and rumors that some form of nation-wide passenger service "rationing" would soon be put in effect. Actually, the O. D. T. is concerned only in seeing that the essential passenger traffic of the country moves in as efficient a manner as possible and if the railways can meet the demands, including the anticipated increase in passenger travel, the O. D. T. will be satisfied. Such orders as it has already issued have been designed to help the railways accomplish this objective. O. D. T. order No. 24, for example, was based essentially on what seems a prime necessity—the avoidance of running special cars or trains for groups not directly concerned with the war effort. No individual railway could refuse such traffic, but the O. D. T. had the authority to take this step and make it nation-wide.

A Statement by Mr. Eastman

Just what are the views of the O. D. T. on the subject? We have endeavored to clear up this confusion by asking Director Eastman to state his views.

Director Eastman's statement follows:

"The Office of Defense Transportation has a mandate from the President to assure the orderly and expeditious movement of men to points of need. To us, this mandate has the meaning that congestion which will interfere with prompt and orderly movement of passengers whose travel is closely connected with the war effort must be prevented by the railroads or where necessary, by O. D. T. order. There is no need for the O. D. T. to issue instructions to the railroads regarding the importance of the movement of troop trains, for this travel was receiving a first priority long before we entered into the war and the railroads are accomplishing an outstanding job of troop transportation. However, our mandate extends to other forms of necessary and war-impelled travel—so does the responsibility of the railroads in order to accomplish fully their part in the war effort.

"The idea of controls, priorities, and rationing of passenger travel seems to be repugnant to almost everyone concerned with mass transportation. The problems involved in a system of controls would be so difficult to solve and to administer equitably that there are many reasons for doubt as to the workability of any such system.

"Therefore, as the rapidly mounting passenger load threatens to cause congestion and interferences with war-required travel, it has been the policy of the Office of Defense Transportation to encourage understanding

on the part of the public to the end that voluntary curtailment of travel will result.

"Before attempting to impose controls, I think that all of us who have responsibilities in connection with war transportation—whether they are government responsibilities or operating responsibilities—should give the American people the facts about travel in war time and should urge them to use transportation sparingly and in a manner which will not prevent the railroads from completing their thus far successful full contribution to the war effort.

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What Passenger Traffic Managers Think

Actually, the much-used term "passenger service rationing" is a misnomer. The immediate question is not rationing in the true sense of the word but rather passenger service control. As a further contribution to the solution of a vexing question, a survey has been made by *Railway Age* of the opinions of prominent passenger traffic managers on this subject. Since the circumstances and conditions surrounding passenger transportation are by no means identical in different parts of the country, these opinions have been grouped geographically—East first:

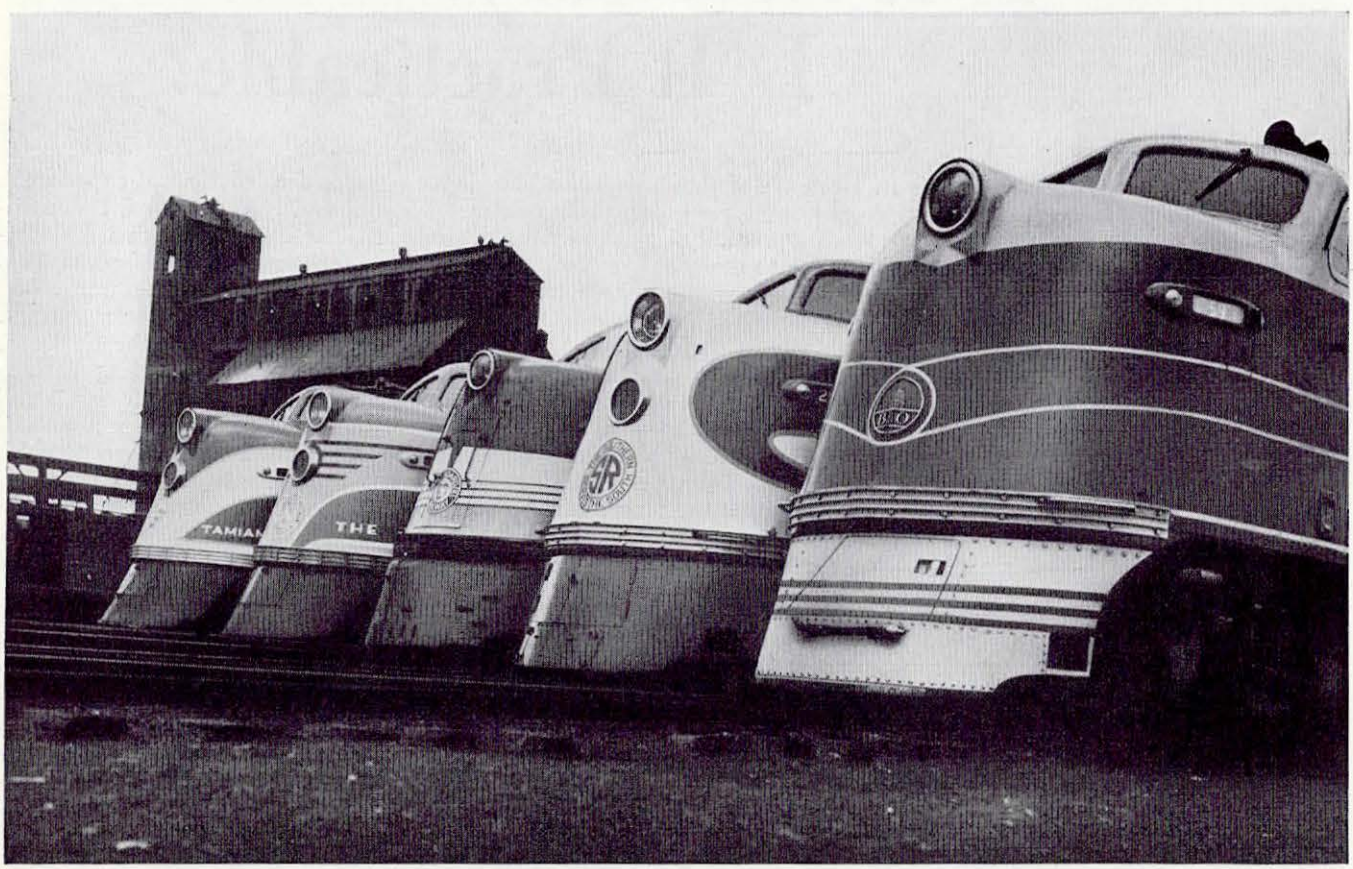
"The rationing of passenger transportation will result in serious delay to passengers at ticket offices as well as in a great deal of burdensome clerical work in handling the rationing system, whatever its nature may be. It will also be wasteful of transportation facilities, as has been proved with the air lines which are currently advertising for business because the rationing of their space has resulted in keeping passengers away. The roads individually are best able to determine what transportation they have available and how the space should be used most advantageously, and it would be very much better to allow control of the situation to rest with them."

"I do not believe it is practical, and even consider it impossible, to ration passenger transportation and have other than public chaos. It is only necessary to follow the trip of any through train from the eastern seaboard to Chicago or St. Louis and note the originating points and destinations of the passengers who use that service, to realize that to try and say who can and who cannot go, when they can go and how far, would require an army of policemen. Furthermore, I see no necessity for it at present."

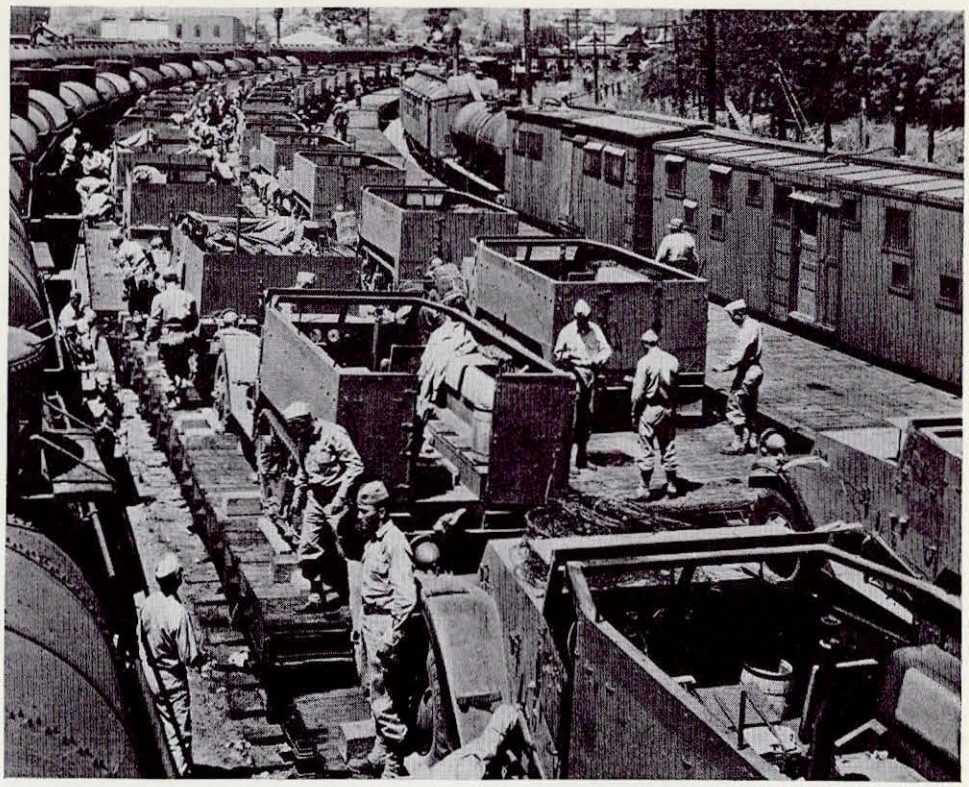
"If the demand for passenger equipment for military purposes should continue to increase, as we are led to understand will be so, and if the rationing of gasoline is spread throughout the country, it seems to me that some sort of priority for passenger travel will eventually be necessary. This may quite properly apply to travel in Pullman cars rather than coaches at the outset."

"We believe that in the interest of public morale, the rationing of passenger service should be deferred as long as possible, and then confined only to points between which traffic has reached such volume that it cannot be handled adequately."

"With the exception of comparatively few Eastern and Southern lines which have been called upon to handle a large volume of military traffic, it is not my impression



This Group of Diesel-Electrics Helps Relieve Congestion Out of Washington



Troop Movements Such as These Complicate the Problems of Efficient Passenger Handling

that the rationing of passenger service is necessary or advisable. There has been a general increase in passenger traffic, with congestion between many points over the holiday periods, but there are hundreds of trains that are well able to handle additional business, and to curtail travel unnecessarily would, to a large extent, needlessly deprive the public and injure railroad revenues. Of course, this picture may change and require radical treatment, but I believe this should be withheld until it is really warranted."

"So far as our own railroad is concerned, we do not believe that rationing of passenger travel is necessary at this time. Up to the moment, we have been able to accommodate our patrons nicely."

"Before the end of the war it will probably become necessary to ration passenger service for travel between the national capital and large commercial centers and possibly between other large commercial centers in the East. Probably it will not be necessary to ration such travel on the smaller roads, at least some of which can handle many more passengers without serious difficulty."

"I do not think conditions up to this time warrant rationing of passenger service and, unless they become very much worse, I am opposed to rationing. It seems to me that it would be impossible to administer the details of rationing passenger transportation in a manner that would be fair to all concerned without creating another federal bureau, requiring a very large personnel, and if previous experience with rationing is any indication of what would happen it is likely that most people would rather forego making a trip than submit to the red-tape that is necessary in order to secure rationed articles. This might result in the falling off in travel to an extent that available facilities would not be used."

"The rationing of passenger travel would be very difficult to police and we prefer that it be kept on an honor system for the time being. It may be that broader tax bases and increased living costs will assist in holding travel to a reasonable level. If travel should continue to increase at its present rate and we are unable to secure additional equipment, some sort of rationing may become necessary."

"For a number of years we have been conducting a modified form of rationing insofar as our suburban service is concerned. In order to level off the heavy morning and afternoon peaks, we sell one-day suburban tickets that are not good on trains during these peak periods. We sell an average of 100,000 of these tickets a month and believe that, without the incentive of reduced fares to take traffic off peak-hour trains, many of these passengers would add to the already crowded conditions. One way to get passengers off crowded trains is to place a cash value on the use of other service. If it were more expensive to travel on Saturdays, Sundays and holidays, a large percentage of the passengers would find some means of making the trips on other days."

What They Think in the South

"If military travel continues to increase at its present rate, as it seems likely that it will, this, coupled with the probable inability of the railroads to further expand passenger capacity, may eventually result in the need for some sort of travel restrictions in most congested territories. Of course it is possible that a hard-boiled adjustment to a rigid war economy would, in itself, tend to curtail civilian travel."

"At an early date we will be compelled to ration passenger travel for the week ends, as we are being taxed to our utmost at certain times in providing necessary equipment."

"I favor rationing only when it becomes essential t the war effort. Many different reasons exist for traveling and the hardship of being deprived of the privilege would be severe for various individuals."

"It is obvious that the demands on the entire transportation system of the nation in the movement of the armed forces will increase, and the carriers will be taxed to the utmost in providing passenger-carrying equipment—coaches as well as Pullman cars. Concerted

efforts are being made by the railroads to discourage what may be termed unnecessary civilian travel, especially over week-end periods, when the volume of passenger travel is the heaviest. This is being done through the medium of notices in the newspapers, and otherwise. With a patriotic response from the civilian travel, I do not believe that rationing of passenger transportation will become necessary. On the other hand, as the available supply of Pullman equipment is pressed into service, the carriers will be called upon, to an even greater extent, to provide coach equipment for troop movements, thus further complicating the situation. The rationing of passenger service, of course, will be most complicated, and I am not at this time prepared to say how it could be accomplished, and it is our sincere hope that it will not become necessary."

"Up to now the railroads have, generally speaking, met all travel needs, and unless we are faced with demands for service for the armed forces greatly beyond those which we have experienced thus far I see no need of rationing. I can't visualize such a condition arising and enduring for a protracted period. We may have to face a crisis, and we may even have recurrences, but if we do we are capable of doing some common-sense discriminating ourselves to meet these occasions. We are certainly not confronted with any crisis at this time, and it will be time enough to consider rationing when and if it walks in on us."

"Rationing of passenger travel will place a great burden on civilian travel. However, it is quite possible that some form of rationing will have to be adopted if the public continue to make unnecessary trips. We are discouraging unnecessary travel at every opportunity and have withdrawn as far as we independently can every fare lower than the normal fares."

"The rationing of passenger service would be a colossal job. It would, unquestionably, require the employment of great numbers of men or women, many of whom would probably be ill-fitted to decide whether a prospective passenger's business was such as to merit a travel permit. I do not see how it can be accomplished unless, in addition to passing upon the necessity of the travel, all seats were reserved in both coaches and Pullman cars to avoid overflowing the accommodations available; then too, such a plan might work out in a way that would result in the operation of a great deal of unused space. The task is such a herculean one that it should not be attempted. The railroads can handle the traffic that is offered. Some people may have to stand, others will not be able to obtain berths, but nevertheless I think that people are already sufficiently acquainted with the discomforts of present day travel to cause them to put into effect a voluntary rationing system."

"We are opposed to any form of government rationing of passenger travel. It would take an army of employees all over the United States to administer and enforce restrictions on travel in unreserved seats in coaches. We feel sure that all military movements will continue to be handled expeditiously and satisfactorily. Those who travel on war business or on other vital errands will be taken care of and pleasure and unnecessary travel, we feel, will automatically adjust itself to the ability of the railroads to handle such travel. Only confusion would result from an effort to ration all passenger travel."

Views on Rationing in the West

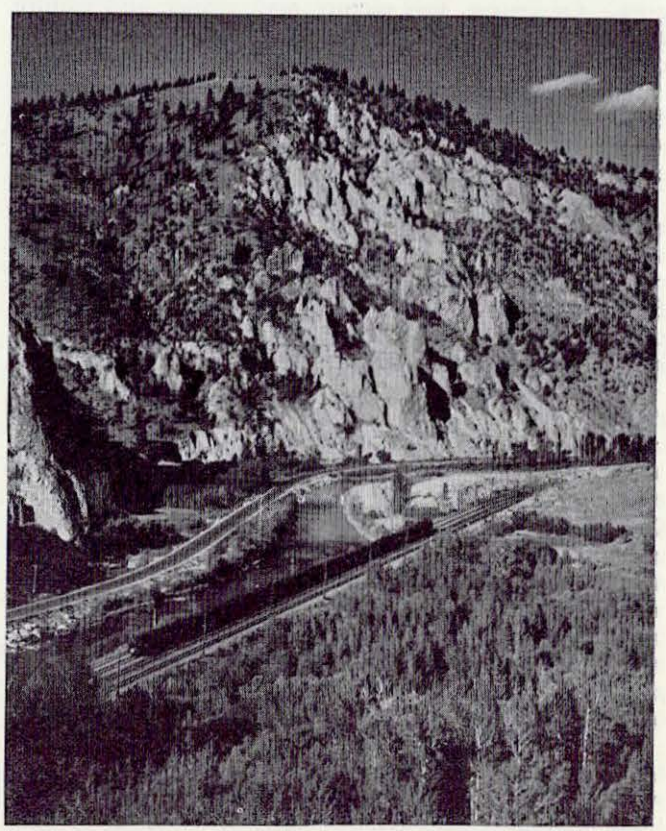
"For practical purposes, rationing of passenger transportation on the railroads does not hold much promise of agreeable success. Under present-day operations, the policy of first come, first served seems to be the answer to this problem, after taking care of the armed forces. Much will depend on the outcome of gas rationing, which may divert a heavy flow of travel to the rail lines. Under the reservation system, Pullman travel is well controlled.

"Coach passengers board and leave trains at stops enroute and the loadings vary constantly with the movement of the train. It is desirable to keep trains well filled and passengers on certain trips may have to contend with overcrowding at times, but they seem to understand the situation."

"If it is found necessary or thought advisable to ration passenger service, it should be done on a regional basis rather than regulated on a nation-wide basis. Many of the western lines are able to handle their passenger business without overtaxing their facilities, as we have heard is being done in some sections of the East."

"Rationing of passenger service does not seem necessary or practical. The vast majority of travelers prefer occasional overcrowding and adjustment of their individual plans to meet existing conditions. As a practical matter, I do not think there are enough telephones, not to mention manpower, to handle the reservations which would presumably be a necessary part of any rationing program, having in mind that on our railroad alone we are handling approximately 15,000 coach passengers (exclusive of commutation) each day and they are boarding our various trains at about 1,000 different stations."

"It is hardly conceivable to me that any plan could be evolved for rationing passenger travel to the extent that every individual would have to secure approval of some government agent before making a trip. It is conceivable that the continued passing of automobiles out of the picture because of inability to secure tires or the rationing of gasoline might bring about a condition where



Vacation Travel to Scenic Spots Has Been Materially Decreased to Make Room for Essential Travel.

travel necessary in the war effort would be impeded and some class of priorities might be necessary to insure that people having need to travel in such capacity secure accommodations first. In other words, there might be a preferred class of people authorized to secure accommodations and let the public generally take what was left. That is the only kind of rationing I can conceive of which would be feasible."

"While I anticipate that rationing of passenger transportation may become necessary at a later date, I do not think that it should be rationed on western lines at present. If it were rationed, I believe many of the western lines would have light trains. Until such time as it is necessary to ration passenger travel, I look with favor on O. D. T. Order No. 24."

"There is no need at the present time for the rationing of this service. It is true that there are a few commercial centers between which an occasional day or train would indicate that rationing should be considered, but when viewing railroad travel as a whole, we think that we have proved that we can accommodate the present traffic."

"I don't think that any formal rationing will be required, at least for some time. We have handled our passenger business so far with very little standing. Our Labor Day business was handled in good shape. The public knows that trains are congested, and we have given them warning as to the difficulty in getting space, etc. Pleasure traveling has been cut down materially, according to our survey on trains. We feel that we can handle the business without formal government rationing, and if it should become necessary to give certain classes of travelers preference over others, we can handle that ourselves without formal government rationing. We have already worked along these lines with the military and other government passengers."

"So far as our railroad is concerned we have had no difficulty in handling our passenger traffic, including military movements and government business. I will not attempt to prophesy what orders on the subject of rationing may come out of Washington, but so far as our railroad is concerned there is now no necessity."

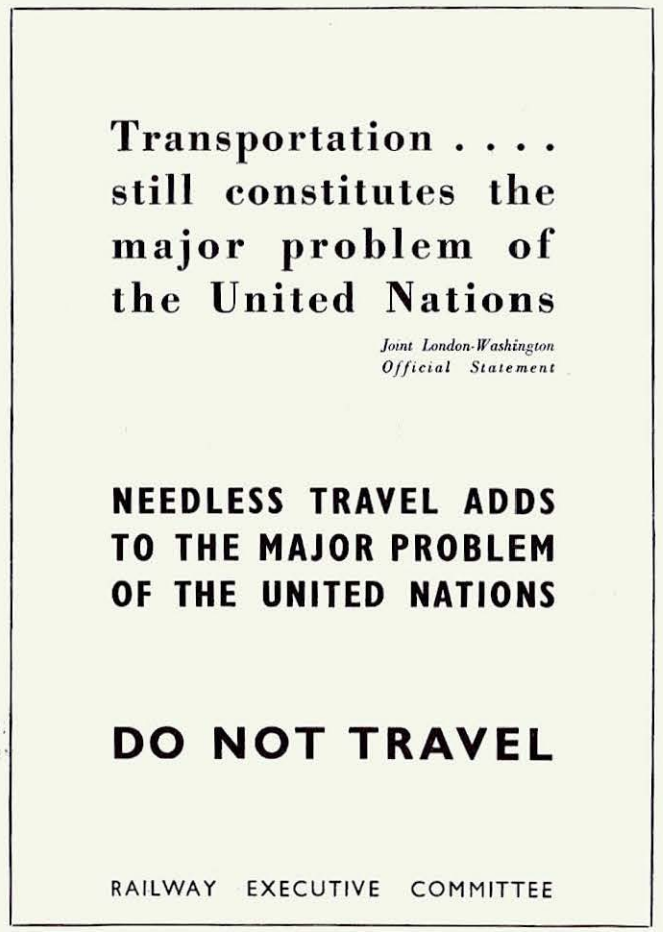
"My associates and I have given a great deal of thought to the rationing of passenger service; and while we feel that it will be extremely difficult actually to put passenger transportation on a ration basis, we are convinced that it soon will be necessary to work out some plan to restrict non-essential travel on trains."

"Rationing of passenger service in this section of the country will not be necessary for some time, because the density of population does not compare with that in the East, where rationing may later be found desirable."

"So far as our service is concerned, we see no need for rationing passenger travel. In this territory the equivalent is being accomplished by refraining from direct solicitation and direct advertising."

"There is no present need or justification for travel rationing. We have not even approached that requirement in the West. With the amount of passenger equipment limited for the duration, it is obvious that there is a saturation point somewhere, which will be reached more quickly in some areas and regions than others. It is our hope that this clear fact will be recognized and that any definite need for local controls will not hastily be made the excuse for nation-wide rationing. This would not only be extremely difficult to administer but would work a definite hardship upon civilian travelers and individual roads alike in those less congested areas where sufficient passenger equipment continues to be available. The problems of local or regional congestion should be treated as such before any blanket action is taken and, in every case, all possible means of spreading and meeting the burden, short of actual rationing, should be explored and applied before taking more drastic action."

"It is practically impossible to hazard a guess about the rationing of passenger service. Certainly at a time when the nation is hard pressed for man power, it would be difficult to obtain the vast army of people that it would take to administer a system for rationing travel. It is to be doubted that the government will ration passenger travel unless no way can be found to avoid it. Conditions may develop that would bring about the rationing of passenger travel and those conditions may result from circumstances that we cannot foresee. At present, however, it would seem that there is no immediate prospect of this."


Transportation . . . . still constitutes the major problem of the United Nations
Joint London-Washington Official Statement
NEEDLESS TRAVEL ADDS TO THE MAJOR PROBLEM OF THE UNITED NATIONS
DO NOT TRAVEL
RAILWAY EXECUTIVE COMMITTEE

The British Railways Have Not Rationed Passengers, But Do Discourage Non-Essential Travel by Advertisements Such as These

How About It

Passenger traffic executives have been trained for years in promotion and sales activities. It is admittedly difficult for them to discard their training and their loyalty to their own railway overnight. Moreover, in common with other railway officers, the memory of the bitter experience in the last World War causes them to turn away from any measure savoring of government control. Even taking all this into account, however, they have presented many sound reasons for not applying passenger transportation control throughout the country particularly not through government agencies.

Unquestionably, the directives of the O. D. T., while

offering some knotty problems, have assisted in controlling what might have been stampedes to railway passenger transportation, although the danger of such stampedes is by no means past. In the early stages of the War, the movement of 600,000 troops in seven weeks was good for headlines everywhere. This has now increased to more than a million a month and will go up still further as the needs for the announced 7,500,000-man Army develop. The movement of Navy, Marine and Coast Guard personnel will also increase, not to mention those of the WAACS, the WAVES and other women in uniform.

Passenger travel is going to increase, while the means for handling it are, at best, likely to remain static. The national gas rationing will save rubber, but it will be hard on the upholstery of the railway coaches, not to mention all the other specialties that go to make up a passenger car. Highway buses cannot be expected even to hold their own, for they, too, will feel the pinch.

So the railways will "take it on the chin" in passenger service as they have in other wartime traffic increases when other forms of transportation have failed. The prospects point inevitably to a tremendous lot of hard work if this increase is to be handled without the assistance of additional equipment and with the difficulties in getting materials to maintain existing equipment. Mr. Eastman has been well-advised to keep the seriousness of the situation before the public and the railways on every possible occasion. His requests that the public abandon unnecessary conventions and unnecessary travel of all kinds have unquestionably had their effect in controlling traffic. Undoubtedly, too, there is much truth in the statement made by one passenger traffic manager that the increasing inconvenience of traveling will serve as a deterrent to the "joy-riders."

Altogether, it seems safe to predict that, with the assistance of the O. D. T., the railways will continue to handle troop movements and other essential travel efficiently if not luxuriously without actual passenger service rationing on a nation-wide scale. When emergencies occur, as they will with increasing frequency, the men on the ground, familiar with local conditions, are far more able to handle traffic control than could be done on any nation-wide basis.

The manner in which the railways can meet such emergencies was demonstrated by the Illinois Central on week-ends this fall. Big football games and other events at Champaign, Ill., promised to overcrowd facilities severely, so the I. C. used a train-admission card system to control this traffic. Advertisements were prominently run, giving the following information: "To make the best possible use of available equipment and to permit passengers to make definite arrangements to the extent possible, it will be necessary for all intending visitors to Champaign-Urbana to make advance reservations for coach accommodations. Only passengers holding reservation cards will be permitted to travel on these trains between Chicago and Champaign-Urbana."

At the moment, the railways are launching an advertising campaign to acquaint the public with the seriousness of the situation. It is not inconceivable that, shortly, this campaign may be directed toward the elimination of as much extra travel as possible.

The Difficulties of "Rationing"

Because priorities in air travel have worked after a fashion, it is assumed in some circles that railway travel control could be established on a nation-wide basis with equal facility. In the first place, the relatively simple control of air travel has resulted in a certain loss of passenger-carrying capacity and, in the second place, the scheme would not have worked at all if the country did not have the flexibility and convenience of rail transportation to fall back on. There are now only relatively few stations in the country where airplane passengers can embark or disembark; the number of these as compared to the thousands of railway stations is insignificant. The problem of control of air traffic is a vexing one—the problem of controlling railway traffic would be an impossible one, unless a veritable army could be employed to police it. Moreover, any rigid form of control would inevitably signalize the return of ticket scalping unless the system were policed elaborately, and where is the further army of men to be obtained to supervise this huge task?

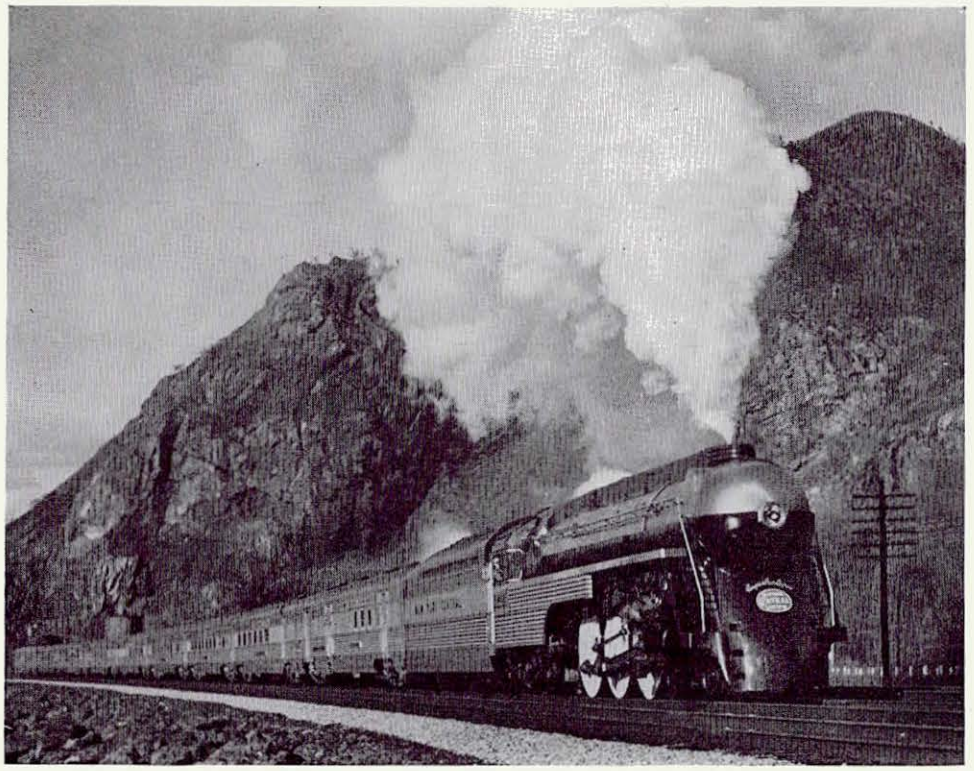
Pullman Travel Already "Rationed"

The suggestion has been advanced that passenger "rationing" should be limited only to Pullman travel. Actually, in view of space reservations there is already a control of Pullman travel. Any more rigid control that could be set up would merely result in waste space in Pullman cars and an attendant further strain on already crowded coach facilities.

Moreover, in the final analysis, it is pertinent to inquire just what would be gained by such rigorous passenger travel control? So far, no complaints have been received that troop movements, other military travel or government travel is not being handled efficiently. There is little likelihood that any railway will not be able to handle this class of travel efficiently, no matter what eventuality develops. As for "essential civilian travel," what does this mean? Of course, travel in connection with war production is essential, but where is the line to be drawn after that? Is the travel of newspaper or technical paper correspondents in pursuit of information to disseminate to the American public essential? Is emergency travel to the death-bed of a close relative essential? Are we to deny our older people their right to seek out warmer climates in the winter? Inevitably, discrimination and hardships would result. Certainly, in view of the obvious disadvantages of any form of overall passenger travel control, the American public would prefer to be permitted to use their own discretion and to take their chances on overcrowding and other discomforts rather than to be regimented and, in numerous instances, discriminated against.

Lastly, there is the experience of the British railways to consider. Their state is infinitely worse than ours, for they have not only been blasted and bombed, but they have also been called upon to handle the increased passenger traffic brought about by the complete elimination of private automobile traffic. Naturally, the possibilities of rigid traffic control were studied carefully and the decision was reached that it was not feasible or economical for many reasons, chief of which was the excessive amount of manpower necessary to police such a system.

Whatever devices that are used to restrict travel, the evidence collected from many informed sources indicates that any nation-wide rationing of passenger traffic would probably result in dangerous confusion. It would work a distinct hardship on individual travelers and on individual railways. The passenger executives of the railways are convinced that they have kept pace with the times and have discarded their former promotional and sales attitude sufficiently to take care of the situation, with the assistance, but not under the complete domination, of the Office of Defense Transportation.



The New N. Y. C. Empire State Express Serves a Densely Populated Industrial Section

America's Streamliners Go To War

Modern trains, through high-speed operation, do more than their share in increasing the railways' passenger capacity

THE streamliners have gone to war, too. These proud monarchs of the rails, even those once devoted almost entirely to luxury travel, have been put to extremely utilitarian handling of essential civilian travel and individual officers and men of our armed forces. Included among the passengers on all of these trains are numbers of our soldiers and sailors. Many of the trains handle extra coaches or Pullmans of standard designs to accommodate special troop movements as the necessity arises. A number of them now handle extra cars of such design regularly to increase their capacity. Many of their lounge, club and parlor cars are being remodeled to permit the handling of more passengers.

Some of these trains have been taken out of service entirely to make room for troop movements and wartime freight traffic. One of them has been scrapped for its precious content of aluminum. Others have reduced or eliminated extra-fare charges to permit more people to use them. In the final analysis, all of them are now on a completely utilitarian basis and doing their part in the important work of increasing the capacity of railway passenger transportation.

New Trains

Fourteen new streamliners have been put in service since we published our survey of these new trains in our Passenger Progress Issue of November 22, 1941. All of these had been ordered, however, and were nearing completion before the shortage of materials developed, which has halted the building of any more such trains for the duration. These fourteen new trains include the following:

No. of Trains	Railway	Operated Between
2 Empire State Express	N. Y. C.	New York-Cleveland-Detroit
1 Lincoln Eagle	M. P.	Union Nebr.-Lincoln
1 Peninsula 400	C. & N. W.	Chicago-Ishpeming, Mich.
1 Capitol 400	C. & N. W.	Chicago-Milwaukee-Madison
1 Minnesota 400	C. & N. W.	Wyeville, Wis., Mankato, Minn.
1 Green Bay 400	C. & N. W.	Chicago-Green Bay, Wis.
2 Panama Limited	I. C.	Chicago-New Orleans
2 Colorado Eagle	M. P.	St. Louis-Denver
2 Hiawatha	C. M. St. P. & P.	Chicago-Twin Cities
1 City of Seattle	U. P.	Portland-Seattle

During the year also many new lightweight streamlined passenger cars were delivered for operation on various trains as individual units. Among these were three pendulum cars of new design, delivered to the Atchison, Topeka & Santa Fe, the Chicago, Burlington & Quincy and the Great Northern. The last 25 of a total order of 95 lightweight coaches were put in service on the New York Central in October. All regularly assigned sleeping cars on the Golden State Limited were replaced with new lightweight equipment, although further plans for streamlining practically all of the other important transcontinental trains between Chicago and

The Extra Fare Charge Has Been Eliminated on the New Panama Limited of the Illinois Central to Encourage Greater Utilization.

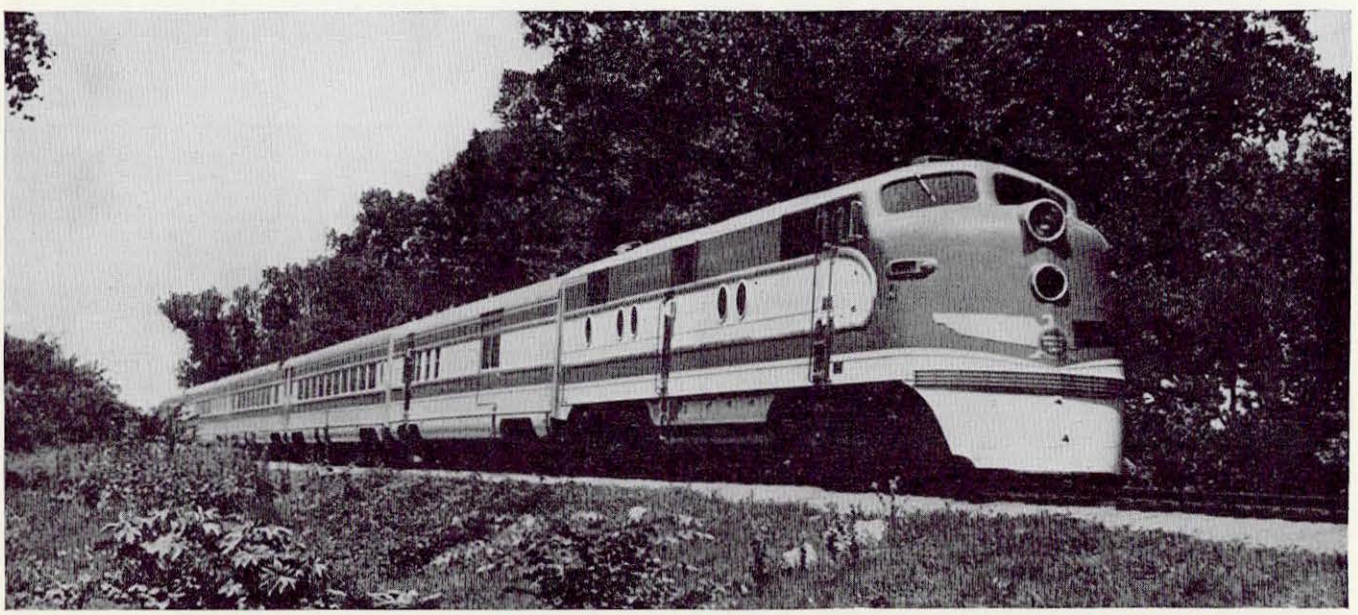
Los Angeles-San Francisco were halted by the materials situation.

Useful Streamliners

The utilitarian value of the streamliners under today's record demand for passenger service is enhanced because of the fact that, with their higher speeds and quick turn-arounds, greater use and hence greater capacity are obtained with these trains, car for car, than with heavyweight equipment. The 28 cars that go to make up the two Denver Zephyrs of the Burlington, for instance, are piling up a daily mileage of 1,036 each. The 16 cars of the two Twin Zephyrs make 882 miles a day, and 18 cars of two Texas Zephyrs make 834 miles. The large number of cars comprising the Broadway Limiteds of the Pennsylvania and the Twentieth Century Limiteds of the New York Central run between Chicago and New York every day, or well over 900 miles.

The equipment on the Super Chiefs and El Capitans piles up 4,456 miles a week and that of the New York-Florida and Chicago-Florida trains averages close to 1,000 miles daily. The City of Denver trains of the C. & N. W.-U. P. run 1,048 miles daily, while the transcontinental streamliners of these railways average nearly 1,000 miles per day. Many other trains make similarly high mileages. The number of cars making such long daily runs has mounted steadily. They thus represent a far greater contribution to the nation's railway passenger-carrying capacity than their numbers, as compared with conventional equipment, would indicate.

The majority of the streamliners, even in peace times, catered largely to business travel. Since the war this has been intensified. For illustration, where, formerly,



The New Colorado Eagle of the Missouri Pacific Serves Important War Production Centers

the patronage of the New York-Florida and Chicago-Florida streamliners was largely vacation travel, they are now used principally for military and essential civilian travel. The only one of the streamliners that was devoted almost entirely to vacation travel — the seasonal Arizona Limited, between Chicago and Phoenix, Ariz.—will not be operated this year.

Although the streamliners are now devoted to essential travel needs, their popularity with the public continues unabated. When the Colorado Eagle of the Missouri Pacific was inaugurated last June, there was no advertising or publicity to attract non-essential travel; yet the train left St. Louis on its initial trip with every seat filled and some 50 people standing in the aisles. It is the experience of this and other roads that those who must travel show such preference for these trains that they carry much more nearly capacity loads than other trains between the same terminals.

Earnings per Train-Mile Up Sharply

Of course, the earnings of nearly all trains have shown a marked advance with the increase in passenger travel, but the revenues of the streamliners are particularly interesting. The accompanying statement shows this trend on some of the principal trains.

Earnings of Selected Trains

Name of Train	Railway	Revenue Per Train Mile 1939	1940	1941	1942
Denver Zephyr (2)	C. B. & Q.	$2.61	$2.73	$2.77	$4.60
Afternoon Hiawatha (2)	C. M. St. P. & P.	3.80	3.79	3.87	5.10
Abraham Lincoln	Alton	2.79	2.79	2.84	7.29
Twin Cities 400 (2)	C. & N. W.	——	3.23	3.72	5.51
City of Miami	I. C.-C. of Ga.-A. C. L.-F. E. C.	——	——	2.43	3.44
Silver Meteor	S. A. L.	2.78	1.78	3.53	6.00
Des Moines Rocket	C. R. I. & P.	1.84	1.82	1.82	3.60

NOTE—These figures are not comparable between individual trains or between railroads. Also, they are taken for different periods and the trains vary greatly in the type of service performed.

Figures such as these prove definitely that the lightweight, high-speed streamliner is the train of the future, as it has been the train of the immediate past. In 1934, there were some bold spirits who ventured to predict that there would be as many as 40 or 50 streamliners operating on the railways within 10 years. Actually, this figure has been so far exceeded that it seems almost fantastic. When the war is over, it is extremely likely that, with the hard usage to which passenger equipment is being put and the threat of increased competition, more streamlined trains will be purchased than anyone can foresee at present.

What Has Happened

The year 1942 has seen many changes in the operation of the streamliners. It witnessed the passing of the City of Salina of the Union Pacific, the first of the streamliners to be completed, for this three-car train was consigned to the scrap-heap early this year to permit the aluminum and other vital materials it contained to be reclaimed and used for war production work. The Prospectors of the Denver & Rio Grande Western, which provided over-night service between Denver and Salt Lake City, have also been withdrawn from service.

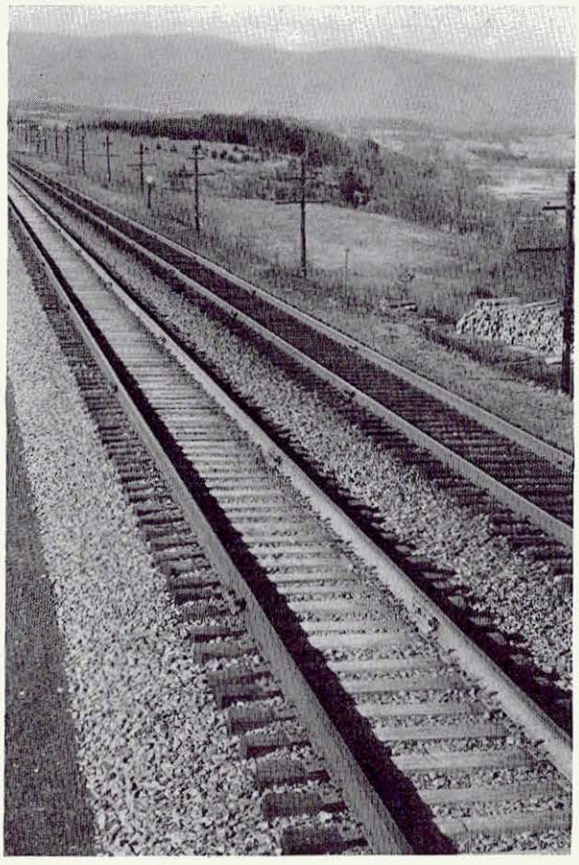
The Noon Daylight of the Southern Pacific, formerly operated between San Francisco and Los Angeles as a companion train to the Morning Daylight, was also discontinued. This train was one of the big money-makers of the country, but its schedule conflicted with the vital war traffic of the Coast division of the S. P. and it was withdrawn from service and its equipment has been scattered among other trains. The unique three-car diner unit was transferred to the San Joaquin Daylight and converted to coffee shop service entirely, to meet the largely increased needs on that train. Its coaches and parlor cars were divided between the San Joaquin and Morning Daylights to bring their consists up to 20 cars each. Some parlor cars on each of these trains have been replaced by coaches. For greater capacity, the tavern cars formerly operated on these trains have been eliminated. The consist of the all-Pullman, all-room Lark was also increased to 20 cars, so that the S. P. now operates three 20-car streamliners in each direction daily between San Francisco-Oakland and Los Angeles.

Some roads, including the Burlington, have converted streamlined parlor cars to coaches to get greater passenger-carrying capacity. This road assigned the Pioneer Zephyr to new and more necessary service last February on a new run between McCook, Nebr., and

The Fleet of New 400's of the C. & N. W. Serves Important Shipbuilding and Other War Production Cities

War-Time Track Must Be Kept In

Engineering and maintenance officers stress need of facilities adequate to the demands of passenger service. Express confidence in their ability to keep pace if protected in their minimum requirements for materials, equipment and labor



Track—The Foundation of War-Time Transportation—Must Not Be Allowed to Weaken or Fail

ONE year ago, with the country still nominally at peace, those in charge of the construction and maintenance of railway tracks and allied facilities, facing a growing passenger and freight traffic that was moving at constantly increasing speeds, viewed with confidence their ability to maintain these facilities—the foundation of safe and dependable train operation—adequate to the immediate and potential needs of the country. Today, on the other hand, with the country at war for more than eleven months, and being called upon to move several hundred thousand troops and their equipment monthly, in addition to a peak civilian demand and a record-breaking freight traffic, these same officers have the same complete confidence in their ability to do the job ahead, although, fully aware of their responsibility, they are showing deep concern in one respect.

This concern grows out of an appreciation that only engineering and maintenance officers can have, of the important part that the tracks and other elements of the fixed properties must play in any adequate rail transportation service. It is based also on a knowledge of conditions which are thinning their ranks of adequate manpower and withholding from them materials and equipment that are vital to adequate maintenance, not to mention essential added facilities. It is not based upon any lack of technological advances in design, materials or methods.

That this latter statement is true, has been demonstrated adequately during the rise of the streamliners, both steam and Diesel-powered, during the last eight years. One by one the routes of these high-speed trains have been brought into step with the requirements of shortened schedules, with comfort and safety. Brought into step, because such operation demands refinement in the track structure all along the line, from the subgrade to the running surface of the rail, and, simultaneously with the increased tempo of operation, rather than prior to it, only because it has been just as important, economically, that the track not outstrip the requirements of train operation, as that, physically, train operation not outstrip the track. In every respect, technological developments in track materials, in equipment, and in methods adequate to the requirements of high-speed passenger train operation are common knowledge among engineering and maintenance officers. Only the economic factors involved have retarded their general adoption in the past, and only the inability to secure the necessary materials, equipment and manpower can retard their adoption now and in the future to meet the demands of our war traffic.

The fact that these latter factors must not be allowed to interfere with the adequate handling of the war traffic is realized keenly by maintenance officers generally, knowing as they do, the limitations of the track structure. That these same factors may not interfere, must be impressed equally upon those who now control the materials, equipment and manpower in the country, and who are in a better position to know than railway men themselves, of the importance of the railways to the military needs of the country, and the potential character of these needs.

Must Not Be Deluded as to Needs

In the critical days that lie ahead, no one in authority must be deluded as to the material and labor requirements of the track structure to enable it to render adequate service, either as to standards of construction or

the patronage of the New York-Florida and Chicago-Florida streamliners was largely vacation travel, they are now used principally for military and essential civilian travel. The only one of the streamliners that was devoted almost entirely to vacation travel — the seasonal Arizona Limited, between Chicago and Phoenix, Ariz.—will not be operated this year.

Although the streamliners are now devoted to essential travel needs, their popularity with the public continues unabated. When the Colorado Eagle of the Missouri Pacific was inaugurated last June, there was no advertising or publicity to attract non-essential travel; yet the train left St. Louis on its initial trip with every seat filled and some 50 people standing in the aisles. It is the experience of this and other roads that those who must travel show such preference for these trains that they carry much more nearly capacity loads than other trains between the same terminals.

Earnings per Train-Mile Up Sharply

Of course, the earnings of nearly all trains have shown a marked advance with the increase in passenger travel, but the revenues of the streamliners are particularly interesting. The accompanying statement shows this trend on some of the principal trains.

Earnings of Selected Trains

Name of Train	Railway	Revenue Per Train Mile 1939	1940	1941	1942
Denver Zephyr (2)	C. B. & Q.	$2.61	$2.73	$2.77	$4.60
Afternoon Hiawatha (2)	C. M. St. P. & P.	3.80	3.79	3.87	5.10
Abraham Lincoln	Alton	2.79	2.79	2.84	7.29
Twin Cities 400 (2)	C. & N. W.	——	3.23	3.72	5.51
City of Miami	I. C.-C. of Ga.-A. C. L.-F. E. C.	——	——	2.43	3.44
Silver Meteor	S. A. L.	2.78	1.78	3.53	6.00
Des Moines Rocket	C. R. I. & P.	1.84	1.82	1.82	3.60

NOTE—These figures are not comparable between individual trains or between railroads. Also, they are taken for different periods and the trains vary greatly in the type of service performed.

Figures such as these prove definitely that the lightweight, high-speed streamliner is the train of the future, as it has been the train of the immediate past. In 1934, there were some bold spirits who ventured to predict that there would be as many as 40 or 50 streamliners operating on the railways within 10 years. Actually, this figure has been so far exceeded that it seems almost fantastic. When the war is over, it is extremely likely that, with the hard usage to which passenger equipment is being put and the threat of increased competition, more streamlined trains will be purchased than anyone can foresee at present.

What Has Happened

The year 1942 has seen many changes in the operation of the streamliners. It witnessed the passing of the City of Salina of the Union Pacific, the first of the streamliners to be completed, for this three-car train was consigned to the scrap-heap early this year to permit the aluminum and other vital materials it contained to be reclaimed and used for war production work. The Prospectors of the Denver & Rio Grande Western, which provided over-night service between Denver and Salt Lake City, have also been withdrawn from service.

The Noon Daylight of the Southern Pacific, formerly operated between San Francisco and Los Angeles as a companion train to the Morning Daylight, was also discontinued. This train was one of the big money-makers of the country, but its schedule conflicted with the vital war traffic of the Coast division of the S. P. and it was withdrawn from service and its equipment has been scattered among other trains. The unique three-car diner unit was transferred to the San Joaquin Daylight and converted to coffee shop service entirely, to meet the largely increased needs on that train. Its coaches and parlor cars were divided between the San Joaquin and Morning Daylights to bring their consists up to 20 cars each. Some parlor cars on each of these trains have been replaced by coaches. For greater capacity, the tavern cars formerly operated on these trains have been eliminated. The consist of the all-Pullman, all-room Lark was also increased to 20 cars, so that the S. P. now operates three 20-car streamliners in each direction daily between San Francisco-Oakland and Los Angeles.

Some roads, including the Burlington, have converted streamlined parlor cars to coaches to get greater passenger-carrying capacity. This road assigned the Pioneer Zephyr to new and more necessary service last February on a new run between McCook, Nebr., and

The Fleet of New 400's of the C. & N. W. Serves Important Shipbuilding and Other War Production Cities

Lincoln. The extra-fare charges on the Broadway and the Twentieth Century were reduced from $7.50 to $5.00 on June 15, so that more people would take advantage of these trains and thus increase the New York-Chicago capacity. The schedules of all the Chicago-Denver and Chicago-Pacific Coast streamliners have been lengthened approximately one hour so that military and war production traffic may be given the right-of-way on these busy railways. On several of these trains, the full club-lounge cars have been discontinued.

The new Panama Limiteds, which were put in service on the Illinois Central on May 3, figured in the widespread re-adjustment of passenger service made on that railway on October 18, for the purpose of obtaining maximum utilization of the passenger equipment available. Under the new arrangement, the extra fare charge

The Nation's Streamliners*

Railway	No. of Trains	Name of Train	Normal Consist	Type of Service (a)	Placed in Service	Operated Between	Daily Mileage Per Train
Alton	1	Abraham Lincoln	12	B-C-P-D	7- 1-35	Chicago-St. Louis	568
	1	Ann Rutledge	12	B-C-P-D	7-26-37	Chicago-St. Louis	568
A.T.&S.F.	2	Super Chief (x)	9	B-S-D	(b) 6-15-37	Chicago-Los Angeles	651
	6	Chief (x)	11	M-B-S-D	(b) 2-28-38	Chicago-Los Angeles	743
	2	Kansas Citian	6	M-B-C-P-D	4-17-38	Chicago-Oklahoma City	851
	1	Tulsan	5	M-B-C-P-D	12-10-39	Kansas City-Tulsa	512
	2	Golden Gate	6	B-C-P-D	7- 1-38	Oakland-Bakersfield	626
	2	San Diegan	9	M-B-C-P-D	3-27-38	Los Angeles-San Diego	512
	2	El Capitan	7	B-C-D	2-22-38	Chicago-Los Angeles	651
A.C.L.-F.E.C.(d)	3	Champion	14	B-C-D (c)	12- 1-39	New York-Miami	700
B.&.M-Me.C.	1	Flying Yankee	3	B-C-P-D	4- 1-35	Boston-Bangor (e)	500
Burl.-R.I.	1	Sam Houston Zephyr	4	B-C-P-D	10- 1-36	Houston-Fort Worth	566
	1	Texas Rocket	4	B-C-P-D	11- 2-38	Houston-Fort Worth	566
C.&E.I. (f)	1	Dixie Flagler	7	C-D	12-17-40	Chicago-Miami	970
C.&N.W.	2	Twin Cities 400	11	B-C-P-D	(b) 9-24-39	Chicago-Minneapolis	419
	1	Peninsula 400	9	M-B-C-P-D	1- 8-42	Chicago-Ishpeming	775
	1	Green Bay	6	M-B-C-P-D	1- 8-42	Chicago-Green Bay	585
	1	Capitol 400	5	M-B-C-P-D	1- 8-42	Chicago-Madison	651
	1	Minnesota 400	5	M-B-C-P-D	(b) 1- 8-42	Wyeville-Mankato	434
C.&N.W.-U.P.	1	City of Portland	12	B-C-S-D	6- 6-35	Chicago-Portland (g)	805
	2	City of Los Angeles (x)	13	B-C-S-D	12-27-37	Chicago-Los Angeles	904
	2	City of Denver	11	B-C-S-D	6-18-36	Chicago-Denver	1,048
C.&N.W.-U.P.-S.P.	2	City of San Francisco (x)	13	B-C-S-D	6-14-36	Chicago-Oakland	961
C.B.&Q.	1	Mark Twain Zephyr	3	M-B-C-P-D	2-15-42	St. Louis-Burlington	442
	1	Pioneer Zephyr	4	M-B-C-P-D	3- 8-42	McCook-Lincoln	456
	2	Denver Zephyr	12	M-B-C-S-D	11- 8-36	Chicago-Denver	1,037
	2	Twin Zephyr	7	B-C-P-D	12-18-36	Chicago-Minneapolis	874
	1	General Pershing Zephyr	4	B-C-P-D	4-30-39	St. Louis-Kansas City	558
	1	Silver Streak Zephyr	4	B-C-P-D	4-15-40	Lincoln-Kansas City	502
	1	Ak-Sar-Ben Zephyr	4	C-P-D	4-11-40	Lincoln-Chicago	551
(h)	2	Texas Zephyr	8	M-B-C-S-D	8-23-40	Denver-Dallas	832
C.B.&Q.-C.R.I.&P.	2	Zephyr Rocket	7	M-B-C-S-D	1- 7-41	St. Louis-Minneapolis	585
C.M.St.P.&P.	2	Afternoon Hiawatha	15	C-P-D	(i) 5-29-35	Chicago-Minneapolis	421
	2	Morning Hiawatha	15	M-C-P-D	1-21-39	Chicago-Minneapolis	421
	2	Mid-West Hiawatha	6	M-C-P-D	12-11-40	Chicago-Omaha (j)	488
C.N.S.&M.	2	Electroliner	4	C-Bu	2- 9-41	Chicago-Milwaukee	425
C.R.I.&P.	2	Rocky Mountain Rocket	7	M-B-C-S-D	11-12-39	Chicago-Denver (k)	1,084
	1	Peoria Rocket	4	B-C-P-D	9-19-37	Chicago-Peoria	644
	2	Kansas City-Minneapolis Rocket	3	B-C-P-D	9-29-37	Kansas City-Minneapolis	489
	2	Kansas City-Dallas Rocket	4	M-B-C-P-D	11-15-38	Kansas City-Dallas (l)	677
	1	Des Moines Rocket	4	B-C-P-D	9-26-37	Chicago-Des Moines	716
	2	Choctaw Rocket	4	M-B-C-S-D	11-17-40	Memphis-Amarillo	761
G.M.&O.	2	Rebel	4	M-B-C-S-Bu	7- 1-35	New Orleans-Jackson (m)	497
I.C.	2	Panama Limited	9	B-S-D	5- 3-42	Chicago-New Orleans	921
(n)	1	City of Miami	7	B-C-D	12-18-40	Chicago-Miami	995
	1	Green Diamond	4	M-B-C-P-D	5-17-36	Chicago-St. Louis	588
	1	Miss Lou	1	C-Bu	11-17-40	New Orleans-Jackson	366
K.C.S.-L.&A.	3	Southern Belle	9	M-B-C-S-D	9- 1-40	Kansas City-New Orleans	873
M.P.	2	Missouri River Eagle	6	M-B-C-P-D	3-10-40	St. Louis-Omaha	478
	1	Delta Eagle	2	M-C-Bu	5-11-41	Memphis-Tallulah	518
	2	Colorado Eagle	8	B-C-S-D	6-21-42	St. Louis-Denver	1,011
N.Y.C.	2	Twentieth Century Limited (x)	14	M-B-S-D	(b) 6-15-38	New York-Chicago	961
	2	Empire State Express	16	M-B-C-P-D	(b) 12- 7-41	New York-Cleveland (o)	872
(p)	1	James Whitcomb Riley	7	M-B-C-D	4-28-41	Chicago-Cincinnati	605
N.Y.N.H.&H.	1	Comet	3	C	6- 5-35	Boston-Providence	440
N.Y.S.&W.	1	Susquehanna	2	C	7-15-40	Susquehanna Transfer-Butler	430
Penna.	2	Broadway Limited (x)	8	M-B-S-D	(b) 6-15-38	Chicago-New York	908
(q)	1	South Wind	7	B-C-D	12-19-40	Chicago-Miami	1,039
Reading	1	Crusader	5	C-P-D	12-13-37	Jersey City-Philadelphia	360
Seaboard (r)	3	Silver Meteor	17	B-C-S-D	2- 2-39	New York-Miami (s)	1,009
Sou. (u)	3	Southerner	8	B-C-D	3-31-41	New York-New Orleans	924
(v)	3	Tennessean	9	B-C-S-D	5-17-41	Washington-Memphis	619
	2	Vulcan	2	M-B-C	8-24-39	Chattanooga-Meridian	591
	2	Cracker	2	M-B-C	10-11-39	Atlanta-Brunswick	550
	1	Goldenrod	2	M-B-C	9-24-39	Birmingham-Mobile	528
	1	Joe Wheeler	2	M-B-C	9-29-39	Oakdale-Tuscumbia	497
S.P.	2	Sunbeam	6	M-B-C-P-D	9-19-37	Houston-Dallas	264
	2	Coast Daylight	20	B-C-P-CS	3-21-37	San Francisco-Los Angeles	470
	2	San Joaquin Daylight	19	M-B-C-P-CS	7- 4-41	Oakland-Los Angeles	479
	2	Lark	20	S-D	(b) 5- 1-41	San Francisco-Los Angeles (t)	470

* Does not include modernized, rebuilt trains.
(a) B-baggage; Bu-buffet; C-coach; CS-coffee shop; D-diner; M-mail; P-parlor car; S-sleeping car.
(b) Date lightweight equipment was installed instead of heavy on an existing train.
(c) Handles sleeping cars between New York and Florida in summer season.
(d) Full route—Penna-R.F.&P.-A.C.L.-F.E.C.
(e) Operates between Boston and New Hampshire resorts as the "Mountaineer" in the summer season.
(f) Full route—C.&E.I.-L.&N.-N.C.&St.L.-A.B.&C.-A.C.L.-F.E.C.
(g) Streamlined connection, Portland-Seattle.
(h) Operates over C.&S.-Ft.W.&D.C.
(i) Four new sets of trains on this run since 1935.
(j) Train splits at Manilla, Iowa, one section going to Omaha, another to Sioux Falls.
(k) Streamlined connection operated Kansas City-Belleville and Limon-Colorado Springs.
(l) Also makes round trip between El Reno and Oklahoma City.
(m) Streamlined connection operated between Union and Mobile.
(n) Full route—I.C.-C. of Ga.-A.C.L.-F.E.C.
(o) Train splits at Buffalo, one section going to Cleveland, the other to Detroit, via Michigan Central.
(p) Operates over C.C.C.&St.L., Cincinnati-Kankakee and I.C., Kankakee-Chicago.
(q) Full route—Penna.-L.&N.-A.C.L.-F.E.C.
(r) Full route—Penna.-R.F.&P.-Seaboard.
(s) Streamlined connection, Wildwood-St. Petersburg.
(t) Streamlined connection operated from and to Oakland.
(u) Full route—Penna.-Southern.
(v) Full route—Southern-N.&W.-Southern.
(x) Extra fare trains.

on the Panama was discontinued and this train now handles all of the Chicago-New Orleans and St. Louis-New Orleans sleeping cars. This road's two other trains between Chicago and New Orleans now handle coach passengers and intermediate sleeping cars only. The two-car streamliner, Land O' Corn, formerly operated by the I. C. between Chicago and Waterloo, Iowa, is now in the shops for repairs, following an accident. At the same time, the one-car streamliner, Illini, formerly operated between Champaign, Ill., and Chicago is being re-conditioned so that it can be used as a third car on the Land O' Corn streamliner when that train is returned to service.

Modernized Trains

As a result of the widespread use of heavyweight equipment in the new streamliners, the difference between completely streamlined, lightweight trains and other trains not normally classed as new streamliners has largely disappeared. Such trains as the Commodores on the New York Central; the Generals and the Liberty Limiteds on the Pennsylvania; the Challengers of the C. & N. W.-U. P.-S. P.; the Scout of the Santa Fe; the Exposition Flyers of the Burlington-D. & R. G. W.-W. P. and others, which for some time consisted solely of streamlined equipment, now carry also cars of heavier weight.

In line with the conversion of the new streamliners for strictly utilitarian purposes, the modernized, rebuilt trains of the country have also "gone to war." Many of these trains matched the new streamliners in beauty of appearance and in the comfort and luxury of their accommodations; several of them consist of a large proportion of new, lightweight cars, but, like the new trains, most of them now handle standard equipment as necessary to meet the travel demands.

The Pacemakers and Mercuries of the N. Y. C., the Columbian of the B. & O., and the Trial Blazers of the Pennsylvania, modernized coach trains, serving Chicago and metropolitan centers to the East, have continued their spectacular careers as moneymakers and, in addition, are contributing materially to the important job of handling wartime passenger transportation. On the West Coast, north-south wartime travelers are materially aided by the Beavers and the Coasters of the S. P. In fact, all of the modernized trains are contributing their share to the vital job of moving America's wartime passengers.

The only modernized trains installed during the year was the Columbian of the Baltimore & Ohio, between Chicago and Washington. A few years ago, the modernized capital Limited, formerly an all-Pullman train, began handling coach passengers. The innovation was such a success that, in a short while, it was necessary to operate an all-coach section of the Capital almost every day. Accordingly, to meet the demand, the B. & O. removed the modernized Columbian from the New York-Washington service, completely reconditioned its equipment and put it back in service early this year as an all-coach train between Chicago and Washington, restoring the Capital Limited to its previous all-Pullman status.

Streamliner Statistics

As has been customary in this issue for some years, the list of lightweight streamline trains that are now in operation appears on page 828. It will be observed the usual method of reporting the consist has been departed from this year, for the reason that, with streamliners used for strictly utilitarian purposes as they are now, only an average consist can be given. Equipment is added or taken off—usually the former—as traffic demands require and such additions are generally made from whatever type of equipment is available, rather than adhering to the former practices of operating only new lightweight cars in such trains.

* * * *

Troop Train Loading and Unloading Has Been Worked Out on a Scientific Basis

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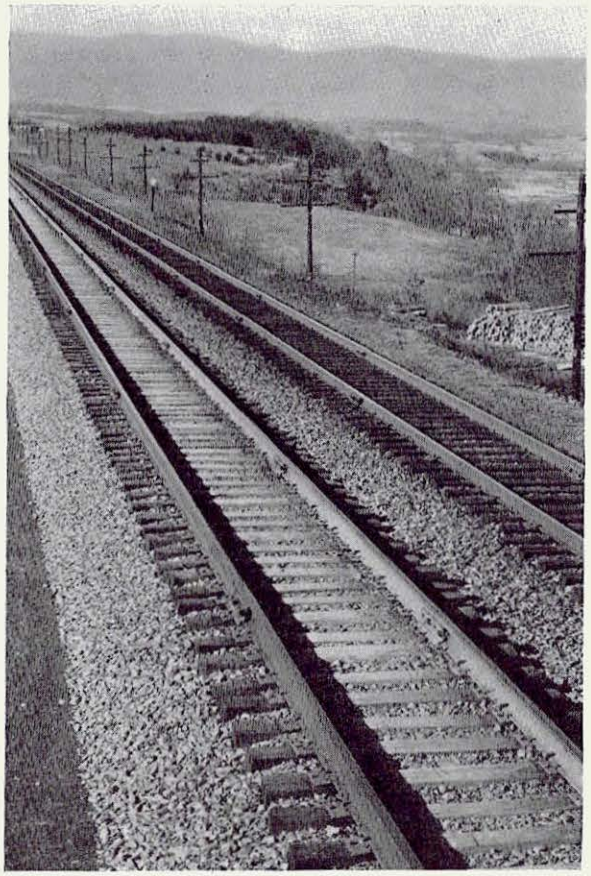

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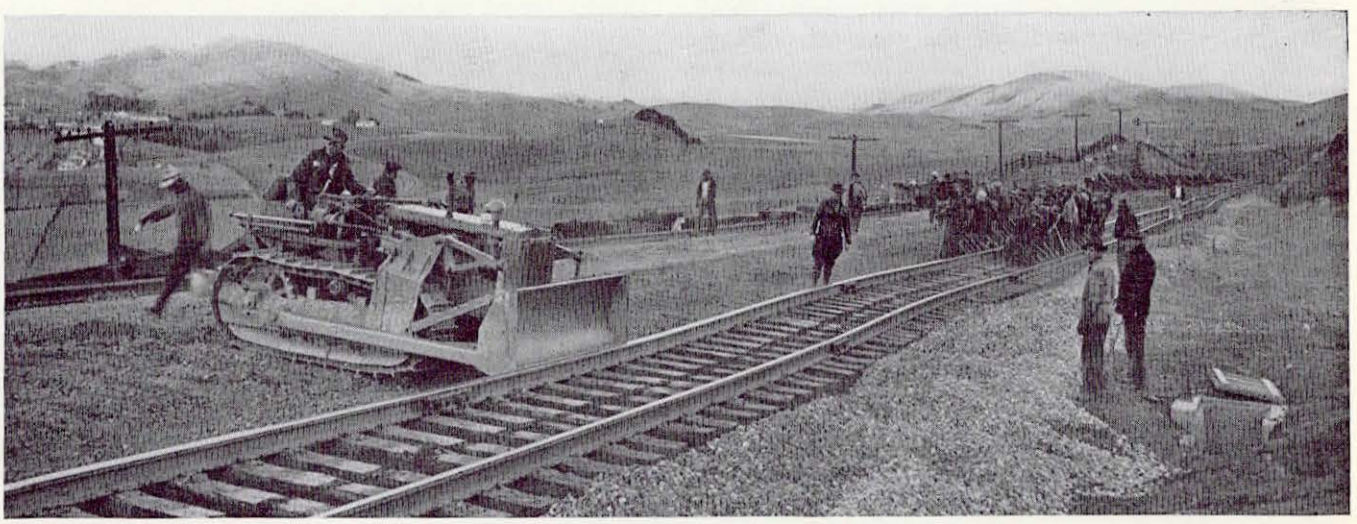
Step With War-Time Traffic

standards of maintenance. Wherever the higher speeds of peace-time train operation have prevailed, they have demanded higher standards of both construction and maintenance—and have received them, often at the expense of less important tracks. To do the more important and intensive job of war-time transportation, these same tracks must continue to receive preferred attention, and hundreds of miles of additional tracks, on revitalized main and branch lines, and in yards and terminals, must be brought into line with the new requirements. Nowhere must restrictions to the free flow of troop trains or other important passenger service be permitted, and to the extent that movements today on main lines, on branch lines, and in yards and terminals, are slowed down unduly or delayed by the condition of the track or inadequate auxiliary facilities, the track and these facilities are bottlenecks which are slowing down our war effort, and which could, conceivably, prove disastrous in a crisis.

During the first seven weeks following the Japanese attack on the United States, the railways transported approximately 600,000 troops, with their equipment, largely to our coastal areas—a remarkable performance on their part. Conceivably, at any moment, a situation could arise where they might be called upon to transport double or triple that number of troops to defense areas in a fraction of the period referred to, and more rapidly in the interests of adequate defense. If that moment should come, the arteries of the railways—their tracks—with related facilities, must be adequate to the task. To the extent that trains today must move at less than maximum speeds because of unstable roadbed conditions, an inadequate or weakened track structure, unprotected areas

Above—The Movement of Troops and Their Fighting Equipment Must Not Be Impeded By Track Considerations. Below—Essential New Construction in the Interest of the War Effort Must Be Continued



subject to washouts and slides, or any one of numerous other factors that can affect the speed and safety of train movements, the tracks of the railways are not in step with our military requirements, and form a weak link in our chain of national defense. It is to be hoped that the situation may never arise in these United States where it can be said, as is now being reported reliably from Germany, that inadequate attention to the railways is proving a seriously limiting factor in the country's war effort.

Must Maintain Tracks

To insure that this situation may never arise, and, on the other hand, that the railways will continue to do the job, whatever the military, industrial and essential civilian requirements may be, engineering and maintenance officers, and those who control their activities, directly or indirectly, must realize that adequate maintenance is essential. Joseph B. Eastman, director, Office of Defense Transportation, from his long and intimate contact with the railways and their problems, realizes this, as is evidenced by his statement some time ago that "maintenance must not be allowed to fall into arrears, and no one has a heavier and graver responsibility than the men who are in charge of this work," and by his subsequent requests on the War Production Board for the allotment of sufficient quantities of materials to the railways to permit their adequate maintenance under war-time traffic.

Mr. Eastman knows, as every track maintenance officer knows, that the abuse sustained by the track structure under traffic is increased as the square of the speed. He knows, as every trackman knows, that higher train speeds, with safety, require a stable, well-drained roadbed, sound rail of adequate section, sturdy rail joints and other rail fastenings, sound crossties, adequate ballast of good quality, light curvature with proper transition spirals, and a high degree of refinement throughout in track alinement, gage and cross level.

Fundamental among these necessities is adequate rail, with adequate joints and other fastenings—fundamental, in spite of the critical character of the material involved, because, even with the greatest care in its maintenance and the application of all known methods of lengthening its service life, wear and tear take a constant toll that must be made good currently if the integrity of train operation is to be maintained. Second only to rail is the need for an adequate number of sound crossties, a need which, in the face of normal deterioration by the elements and increased wear under increased traffic, can be fulfilled only by adequate current replacements. Without sound rail and sound ties, the maintenance of the higher degree of refinement in track alinement, gage and cross level, so essential where high speeds are involved, is practically impossible of attainment, regardless of the amount of labor expended.

Other Facilities Require Attention

Turning to other phases of the fixed facilities of the railways, maintenance men know that streamlining war-time train movements to the tempo of an all-out war effort calls for the adequate maintenance of bridge structures, strengthening or replacing them, where necessary, to meet increased loads and higher speeds; that adequate protection of the tracks and bridges against floods, washouts and slides is essential through bank strengthening, ditching, channel changes, and the installation of suitable warning or protective devices; and that bottlenecks in otherwise unrestricted territories must be relieved through the readjustment and lengthening, as necessary, of passing sidings, and the revision or enlargement of terminal facilities, including the installation of longer turnouts, and of power-operated, remotely-controlled switches, and of spring switches.

Adequate war-time train operation also requires increased attention to passenger and troop-train servicing facilities at terminals; that water stations keep pace as regards dependability and adequacy of supply, quality of water and speed of delivery; that fueling and sanding facilities be of adequate capacity and properly located to avoid delays; and, of primary importance, that increased attention be given to terminal snow-fighting equipment, in recognition of the fact that blocked or inoperative tracks and switches at these critical points can cause delays that are just as serious as those from other sources out on the line.

Water Service Facilities Must Keep Pace With Demands

Work Equipment Essential

To all of these factors that are so vital to adequate war-time passenger transportation must be added the work equipment essential to the adequate maintenance of the tracks, bridges, buildings and other facilities—essential as never before in the face of the growing deflections from the maintenance forces into military service and war industries—while a thinning labor market for suitable replacements has already developed into a serious shortage in many parts of the country, a shortage which promises to become still more serious in the months ahead. During the last ten or fifteen years, and especially during the depression years, this work equipment, including power cranes, shovels, tractors, pile drivers, tie tampers, and a long list of rail laying equipment and power tools for bridge and building work, has been a boon to the rail-

ways, not alone from the standpoint of greater production and improved quality of work, but also, and the underlying basis of nearly all purchases, from the standpoint of the large economies that could be effected. Today, while costs of performing work cannot be entirely overlooked, they have been relegated to the background, and, in the light of the labor situation, it is now primarily the factors of increased production and more permanent results that make work equipment imperative to the adequate maintenance of the tracks and allied structures.

All of these needs of the railways in materials and equipment, essential to a continuation of their successful handling of the war-time passenger traffic of the country, come in the face of peak demands for similar materials for the vast armament program of the nation. Thus, the railways are confronted with and are experiencing shortages of essential materials and equipment on every hand, which, combined with the shortages developing in labor, augur failure to meet the increasing demands of war-time transportation unless relief is forthcoming and is not "too little and too late."

Trackmen Face Grave Responsibilities

In the light of this situation, engineering and maintenance officers are confronted with serious problems and grave responsibilities. Under the most favorable circumstances that can now be anticipated, they must be prepared to get along on a mere subsistence basis. Never before have they been called upon to do so much with so little. Never before has a situation called for greater energy, ingenuity, resourcefulness and vision on their part. On no less an authority than David P. Beach, assistant chief, Maintenance Equipment section, Transportation branch, War Production Board, speaking before the forty-ninth annual meeting of the American Railway Bridge and Building Association, in October, "The job right now is to see that the railroads function properly and are maintained with a minimum amount of strategic materials. . . . The common problem is to maintain facilities on an absolute minimum basis in order to make available for urgent expansion purposes, a portion of the critical materials that can be allotted to the railways."

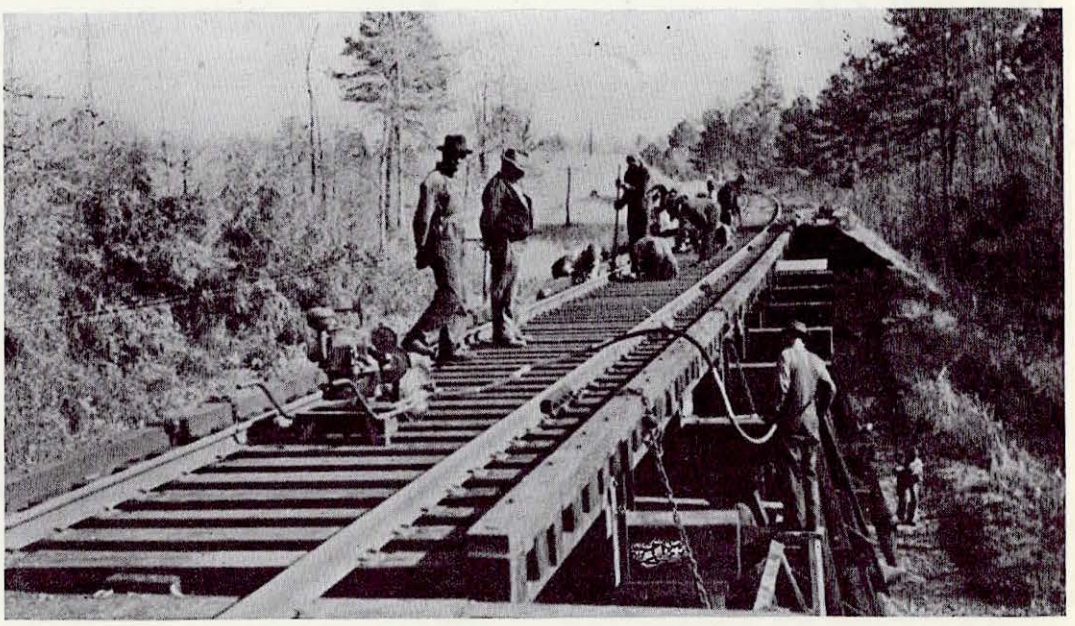
To fulfill this admonition, that comes direct from the WPB, the goals of the engineering and maintenance forces must be to maintain what they already have, more thoroughly and intensively than ever before, and to salvage and reclaim every conceivable item of material and equipment from which additional service life can be obtained. "Business as usual," including designs, methods and economies, is out for the duration.

As regards track maintenance, numerous expedients must be adopted. The life of rail must be extended to the safe limit through greater attention to track alinement, surface and cross level; rail end hardening; the building up of rail ends; the transposition of rails on curves; the more extensive use of rail and flange lubricators; and the adequate checking of rail conditions with flaw detector equipment. Likewise, special trackwork, including frogs, switches and crossings, and every form of track fastening, must be so maintained as to secure its maximum normal life, and then ultimately built up, reformed or otherwise reclaimed to prolong its service life over the maximum period with safety. Combined with these efforts, strength and stability must be built into the track structure to the maximum wherever critical materials are not involved, through ditching, subdrainage, bank widening, tie renewals, ballast cleaning and reballasting where necessary. Only by these measures can the track forces hope to compensate in part for the greater service drain to be made on the other elements of the track structure.

Other Departments Have Responsibilities

And, as in the case of the track, so the elements of stretch-out maintenance, repair and reclamation must prevail in the case of bridges, buildings and other facilities. In the case of bridges, protection against premature destruction of metal by corrosion must be given increased consideration; temporary expedients will be called for to continue in service spans that would normally be replaced; strengthening and repair methods must be carried out with the employment of a minimum of critical materials; mass concrete will have to replace reinforced concrete in many cases where the latter type of construction would normally be preferable; and every effort will be called for to comb bridge storage yards, abandoned lines and other points for spans or other materials that can in any way be adapted for further service.

Building and water service department men, equally pressed by serious shortages in a wide range of materials,



The Inability to Continue Adequate Bridge Maintenance Could Readily Lead to Disasters

have problems and responsibilities equal to those in the track and bridge departments, and only by their ingenuity and resourcefulness in the development and use of substitutes for critical materials, amplified by reclaimed materials and sufficient new materials to meet imperative needs, can they hope to solve their problems successfully. On top of all of these considerations, track, bridge and building and water service men must so organize or reorganize their forces and methods of doing work as to promote the greatest efficiency in the utilization of manpower and equipment, while at the same time requiring a minimum use of cars and locomotives in company services, and with minimum interference with traffic.

Must Have Minimum Requirements

The maintenance of way and structures forces of the railways have done a magnificent job during the last twelve months in meeting the challenge of largely increased programs of track and structures maintenance, and, in the face of the prevailing shortages of materials and equipment, and the loss of thousands of their skilled employees to war industries and the various branches of military service, are still carrying on at an accelerated pace, programs that exceed in magnitude any undertaken since 1930. Commendable as has been the effort of these forces thus far, there are few maintenance men who are satisfied with the results that have been accomplished. This is born of the fact that most of them realize that, from the under-maintenance of tracks and structures inherited from the depression years, they have barely recouped their losses, and that, due to conditions beyond their control, they are now failing to offset the current heavy demands of the war traffic. Justifiably concerned in this regard, they view with further apprehension the still heavier demands that are anticipated in 1943.

To insure that the tracks, bridges, buildings and other elements of the fixed properties of the railways do not fail under the load ahead is the joint responsibility of engineering and maintenance men, railway managements, the Office of Defense Transportation and the War Production Board. Engineering and maintenance men stand ready to do their part, and to do it under long intensive hours and in the face of many handicaps. They have demonstrated this during the war months that have passed, are demonstrating it at the present time, and will demonstrate it for the duration. But, having done everything possible to minimize the use of critical materials, to train and organize their forces, to plan and program their work effectively, and to secure the maximum efficiency from their available work equipment, they must have their minimum essential requirements in track, bridge, building, and water service materials; they must have the labor to carry out their essential operations.

This warning has been sounded many times of late by engineering and maintenance officers. For Example, H. R. Clarke, chief engineer maintenance of way of the Chicago, Burlington & Quincy system, and president of the American Railway Engineering Association, before the fifty-seventh annual meeting of the Roadmasters' Association, in September, when, referring to the attitude of some in Washington toward the needs of the railways for a reasonable amount of vitally essential materials, said, "I wonder if they ever heard that 'you cannot make brick without straw'."

NOW
850,000 BBLS. DAILY
1941
12,000 BBLS. DAILY
HOW 10,000 TANK CARS WERE PULLED OUT OF THE AIR
This is a story of headlines.
The first headline reads, "Navy Announces Two Tankers Sunk in Atlantic"
The second headline says much the same—"Tankers Torpedoed—Fuel Runs Low in Massachusetts".
Hot water becomes a luxury in New York. Homes can't be kept quite warm enough. Cars without gasoline stand idle in Pennsylvania, Connecticut, Virginia, and Maine.
What to do?
America turns to her railroads. Can they carry a greater share of the load?
They can and they do.
Starting with normal shipments of 12,000 bbls. of oil a day, the Erie together with other railroads doubled this figure. Then we doubled it again and again and again until we are carrying 850,000 bbls. a day. Seventy times as much today as in 1941!
Phenomenal? Yes, but no trick of magic. It takes years of "know-how", the pooling of facilities, and the interchange of new operating ideas to make one train do the work of many—to pull 10,000 tank cars out of the air.
The wholehearted support of government agencies helped. So did the cooperation of civilian shippers and car owners. But the most important factor was an intangible—a will to serve the American people that is present all the time, in peace as well as in war.
In spite of every submarine in the Nazi navy, fuel oil and gasoline are going through.
And the last headline reads, "Threat to Comfort and Health of America's Homes Banished".
23,578 TRAINS PER DAY
1,408,964 CARS PER DAY
25,000,000 TONS PER DAY
AMERICAN RAILROADS AT WAR
ERIE RAILROAD
ERIE
★ ONE OF AMERICA'S RAILROADS—ALL MOBILIZED FOR WAR! ★

Railroad Advertising Has a Serious Objective: Victory—These Examples Show How This Weighty Subject Is Treated Cheerfully, Avoiding Ponderous Gloom

A Modern Coach with a Patriotic Message

Passenger Cars Used Intensively

Few design changes in the last year—Higher load factor and reduced out-of-service time will give needed increase in passenger-carrying capacity

DURING the first world war, American railways handled 23 per cent more passenger traffic in 1918 than in 1916, a total of 5,136 new passenger train cars being acquired during this period, including 1,480 purchased by the government. By comparison, the performance of the railroads in handling passenger traffic during the present world conflict is little less than spectacular. Passenger miles on Class I carriers jumped from about 23¾ billion in 1940 to 29⅓ billion in 1941. Only 431 new passenger train cars were acquired in 1940-41 and almost none in the first seven months of 1942, so the achievement of handling this greatly-increased passenger business without substantial addition to the passenger car inventory implies an efficient use of present equipment which constitutes a vital contribution to the nation's industrial and war effort.

Some indication of the extent to which the movement of military personnel has increased railway passenger travel is afforded by the movement of troops in Pullman sleeping cars, all previous records having been broken in September when the figure was 835,000, or 11.3 per cent more than in August, and making a total of 5,185,000 for the first nine months of 1942. This was over twice as many as were handled in the entire previous year.

With the increasingly heavy demand for Pullman equipment in troop movements, the number of sleeping cars available for civilian use has been proportionately reduced. The needs of the armed forces come first, of course, but experience indicates that, with the full cooperation of civilians in planning trips in advance, cheerfully accepting the accommodations available and traveling light, they will experience less inconvenience than might be expected under present travel conditions.

The question may be asked to what extent has modern equipment, acquired by the railroads in the last few years, contributed to the successful handling of present record passenger business and how much must be attributed to more fully-loaded cars, reduced delays at terminals, better facilities for rapid cleaning and conditioning, reduced time spent in repair shops, etc. No quantitative reply can be given to this question, but, with total ownership of about 27,700 passenger carrying cars, including approximately 7,000 cars owned by Pullman Company, it is obvious that the relatively small percentage of new equipment added even in the last several years has had less effect on total passenger-carrying capacity than changes in operating practice which permit securing more intensive utilization of all of the cars, both old and new.

Many expedients have been adopted with varying degrees of success to curtail unnecessary civilian travel and reduce the peak loads in all passenger travel, these various plans including the staggering of school and working hours, more efficient use of private automobiles, army regulation of furloughs, stimulating mid-week travel, curtailing convention attendance, also luxury travel and other similar measures. In spite of these efforts, passenger miles have increased as previously stated, due both to troop movements and increased civilian travel, much of the latter being associated with armament production.

With a given amount of passenger traffic to handle, the load factor is one of the most important single items in determining how much equipment will be required. The average number of passengers per car was only 17.9 in December, 1941, and this number increased steadily month by month to 24.5 in July, 1942. Pullman car loading also was proportionately increased. With an average seating capacity of 72, the handling of only 24.5 passengers per car still represents, however, a load factor which would be considered ample cause for discontinuing the service by some other forms of transportation such

as air transport for example, where the present load factor is probably in excess of 60. It cannot be questioned that a higher average loading of railway passenger cars, accomplished by whatever means may be necessary, will help greatly in handling the increased passenger traffic expected in 1943 with the limited equipment which will apparently be available.

Faster Handling at Terminals

If uniform loading is assumed, the actual passenger-carrying capacity of a given amount of equipment depends upon the number of miles it is operated per day or month and this figure has shown an increase each month from 284,286 miles in January, to 316,926 miles in August, 1942. Owing primarily to the greatly increased number of trains in service with attendant line congestion, especially in single-track territory, average train speeds both freight and passenger, are decreasing slightly rather than increasing, so the more intensive utilization shows plainly that passenger cars are being repaired and reconditioned more promptly at terminals and returned to service with less delay than formerly.

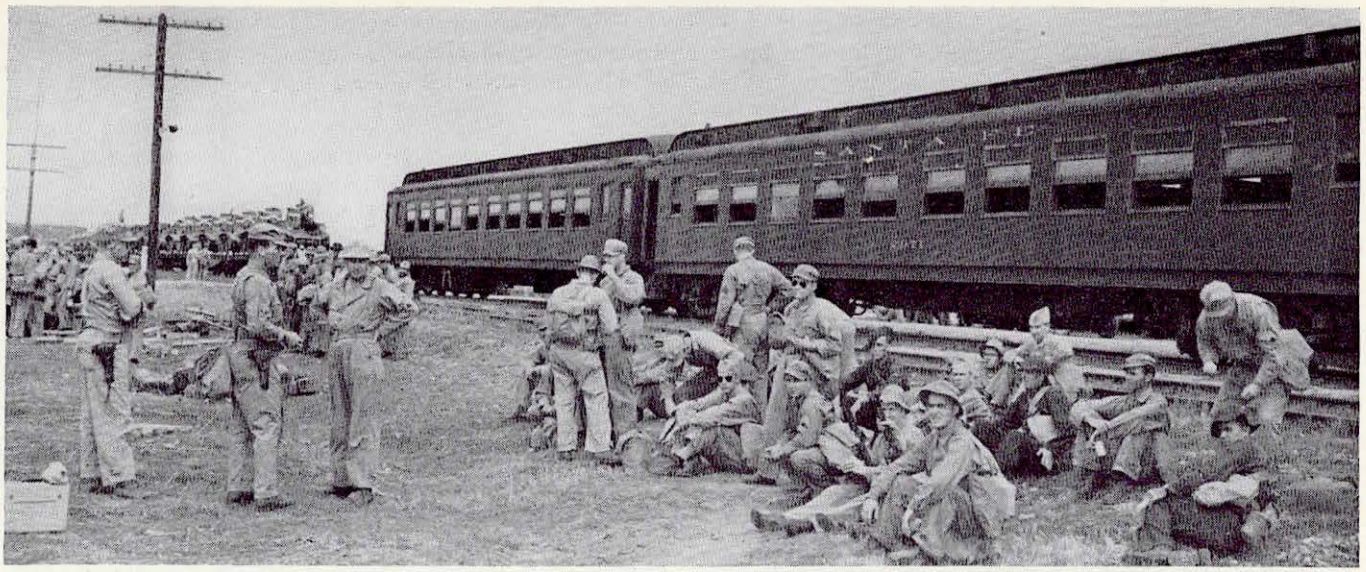
Recognizing the urgent necessity for quick turn-around service, if railways are to handle successfully the passenger traffic now being offered to them, a number of roads have been installing improved servicing facilities at important terminals throughout the country. These improvements include inspection and servicing tracks, located as conveniently as possible with reference to the passenger stations and in some instances having the rails elevated about 18 in. to permit more ready inspection of the trucks from the outside and changing of brake shoes when necessary. Pits between the rails help in underneath inspection and repair work and drop-pits are required for the convenient removal of defective wheels.

These drop-pits are preferably located and designed so that wheel changes with cars of varying truck center spacing and truck wheel base can be accommodated, and the wheels easily removed for necessary turning of journals or changing of wheels. At some terminals, the usual car wheel lathe is supplemented by a grinding machine which permits applying more-accurately-mated wheels on the same axle, thus contributing to improved riding of cars and increased flange and wheel life. The provision of electric car pullers to spot cars easily and quickly on inspection tracks where modern drop pits are available permits wheel changes to be made in as short a time as 30 minutes per pair or less.

Concrete roadways and platforms which facilitate the operation of power-driven trucks have been installed to expedite the movement of materials to and from the cars at coach yards. Adequate water, compressed air, steam and electric lines with convenient outlets aid greatly in reducing the labor involved in servicing trains. Complete facilities for cleaning car exteriors and interiors are required. Also a carpet-cleaning platform, long enough to accommodate full-length aisle strips entirely under cover, has proven to be a good investment.

Another important auxiliary facility at passenger terminals is the equipment for servicing air-conditioning apparatus. A convenient shop and storehouse for replacement units and repair parts is essential, also filter cleaning and drying equipment and provisions for easily handling, refilling and re-applying propane gas cylinders,

Cleaning and Car Repair Forces Are an Important Factor in Quick Turning of Passenger Cars



Tank Corps Members Take a Brief Rest before Unloading Tanks from Flat Cars

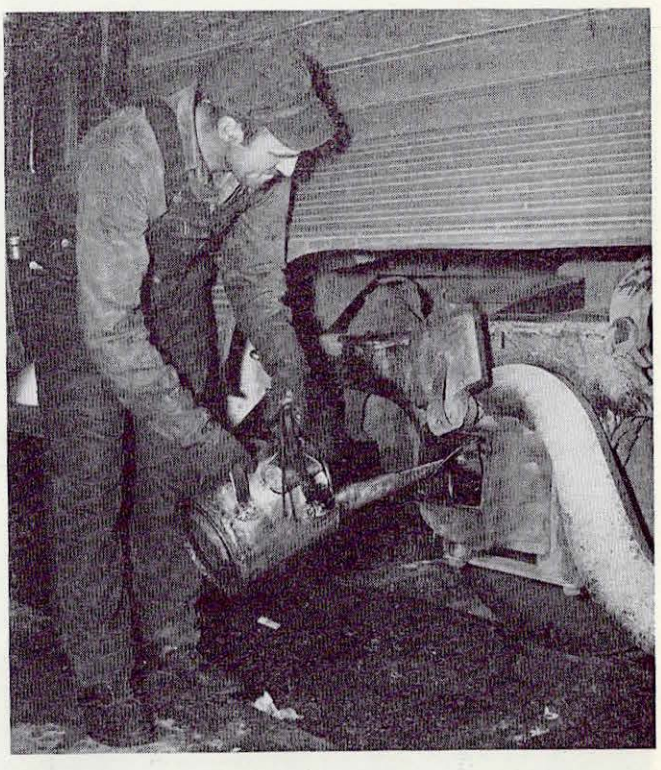
where this type of fuel is used to supply power for air-conditioning units.

In addition to the mechanical facilities installed to expedite turning operations, it has been necessary to give special attention to the problem of man power. With many of the older and more experienced workmen lost to the service on account of the draft, or by seeking employment elsewhere, it has been necessary to add new employees, both men and women, and also provide the added supervision necessary in order to instruct these new coach yard forces and supervise their work to see that it is done properly. In a terminal, for example, where 125 passenger cars have to be conditioned every 24 hours, with 10 to 15 cars requiring minor repairs and as many more needing wheel work, the necessity for efficient and well-equipped coach yard terminal facilities is self-evident.

New Passenger Equipment Plays Its Part

With a total of 14 new trains installed since November, 1941, including two Empire State Express trains for the New York Central, three Eagles for the Missouri Pacific, four 400's for the Chicago & North Western, two Panama Limiteds for the Illinois Central, two Hiawathas for the Milwaukee and one City of Seattle for the Union Pacific, a fairly sizable number of new cars has been placed in service by the railroads and unquestionably this has had a favorable effect on passenger-carrying capacity. It is a well-known fact that new equipment, either locomotives or cars, requires less general attention for inspection and repairs during the early period of its effective service life than subsequently, when parts become worn and the equipment is subject to more rapid wear and breakdown unless given thorough heavy repairs. On this basis, therefore, the new lightweight passenger cars, installed by the railroads and the Pullman Company in the last few years have unquestionably added to the reliability of passenger train service and played an important part in the satisfactory handling of passenger traffic to date.

The reliability of the variety of structural materials used in modern passenger cars, including special steels, strong aluminum alloys, steel castings, and car parts fabricated by welding is a tribute to the manufacturer's skill and contributes fundamentally to satisfactory performance of the car equipment. Much progress has been made in improving steel wheels to adapt them for the arduous conditions of modern operation, including heavy wheel loads, rapid acceleration, high operating speeds and severe braking. The application of roller bearings to long-distance through trains is generally conceded to increase reliability and reduce necessary servicing and terminal attention en route, thereby promoting increased utilization of the car equipment.



Free Oiling a Lightweight Passenger-Car Journal before Departure—10 Cars Require from 3 to 5 Gal. of Oil

Improved truck designs, modern spring suspensions, side bearings, shock-absorbing devices, etc., have done much to make cars ride more easily, and the greatly reduced number and area of friction bearing surfaces has tended to minimize wear and give longer periods of service life between heavy repairs. Modern high-speed

brake equipment, now quite generally installed on passenger cars, is designed to give desired high initial brake shoe pressures with attendant large braking effort at high speeds, these shoe pressures being reduced as the train speed decreases and thus tending to prevent slid flat wheels with all they mean in the way of unnecessary cost and delay to passenger trains at terminals.

Included in the limited amount of new lightweight passenger equipment installed by the railroads since publication of the last Passenger Progress issue are the new sleeping cars assigned to the Rock Island's Golden State Limited and three new pendulum cars delivered to the Santa Fe, the Burlington and the Great Northern, as described in the *Railway Age* of January 24, 1942.

To provide increased passenger-carrying capacity, particularly in coach equipment, many club cars or "luxury" cars have been converted to other types. The Chicago & North Western, for example, rebuilt during last summer eleven conventional-type parlor and cafe-lounge cars into passenger coaches as a first step in the conversion of luxury equipment to meet war needs, material required for the reconditioning of these cars being salvaged from retired equipment or replacement stocks already on hand. A number of club cars were converted into diners to give additional dining space badly needed to accommodate the greatly increased number of passengers carried on some of the trains.

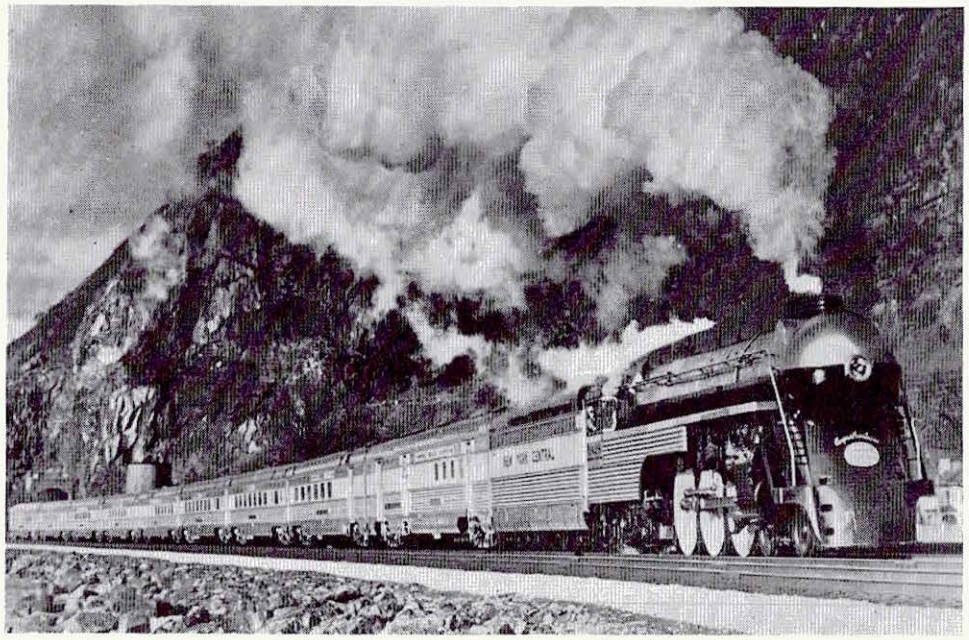
The Canadian Pacific, another one of many roads to participate in this activity, built 25 new coaches in its company shops and converted a considerable number of two-compartment sleepers into cafe-sleepers with seats for 12 persons in the dining space in addition to the sleeping accommodations. Three-compartment sleepers were converted into cafe-parlor cars and one into a diner. Other cars were rearranged to give additional sleeping space, and eight recreation cars, formerly used on de luxe trains, were rebuilt to meet the revised traffic requirements.

A number of coaches with multiple-deck sleeping accommodations for troop handling have been developed and are apparently giving satisfactory service, but construction details covering this equipment have not been released. Early in the present year, the railroads suggested a specially-designed coach to be purchased by the government for troop movement and subsequently converted to a 50-ft. box car at the close of the war. The Office of Defense Transportation was said to have recommended that the War Production Board make materials available for 3,000 troop-transport cars presumably of this type, but no further action in the matter was made public.

In addition to carrying civilians and military personnel, railway passenger equipment, provided with special exterior color schemes, decorative treatment and legends on the sides, has been used on many roads in recent months to stimulate bond sales and recruiting in the army and navy air service. One of these typical cars is shown in the leading illustration.

Cleaning Stainless Steel Car Exteriors—30 Gals. of Cleanser per 10-Car Train Is Applied by Brushes and Washed Off by High-Pressure Water Spray—Job Takes 20 Men 2 Hrs.

Modern Power Carries the Burden Of Today's War Traffic



The job being done by American railroads in handling military and civilian business of record-breaking volume could not be done with motive power of 20 years ago

IN any attempt to evaluate the part that motive power has played in the progress and efficiency with which the passenger operations of American railroads are conducted, the ordinary statistics of performance are of little value. These statistics, for the railroads as a whole, deal in averages that are of value primarily in indicating trends over periods of months and years. Current averages take into consideration the performance of all passenger locomotives now in service, both modern and obsolete.

If the job of handling today's record-making passenger traffic, both military and civilian, were dependent upon locomotives built prior to 1925, the story of today's passenger operations would be an entirely different one and, in all probability, one that would make rather unpleasant reading. This is just another way of saying that without the relatively small proportion of modern passenger locomotives—steam, Diesel and electric—the job that is being done today would be impossible. For, over a period of several years, during which the railroads have steadily reduced the number of passenger locomotives, they have substituted units having infinitely greater capabilities such as greater hauling capacity; greater availability; the ability to operate many more miles between shoppings for general repairs and the ability to run greater distances without the necessity of time out for servicing, inspection and repairs.

Some of the reasons why the statistics of passenger operation fail to disclose the real story of today's performance is best seen by an appraisal of the statistics. Take passenger train-miles for instance. Back in 1929 the Class I roads operated a total of 556 million passenger train-miles. In that year the monthly totals varied between a minimum of 43 million and a maximum of 49.6 million passenger train-miles. From the high figure of 1929 the railroads dropped, in 1933, to a total of 385 million passenger train-miles which total has since increased to 401 million in 1941 and probably will not exceed 415 million in 1942. The important thing in this connection is the fact that if passenger train-miles were looked upon as a method of evaluating passenger train operation we have not yet even approached the high figure of 1929.

Passenger train car-miles tells a similar story for in 1929 the roads operated a total of 3.9 billion passenger car-miles, dropping to a low of 2.56 billion in 1933 and rising again to 3.1 billion in 1941 with 1942 so far running about 13 per cent ahead of 1941.

Here again performance has not reached the high figure of 1929.

In the matter of passenger cars per train the story begins to change for in 1929 the roads operated an average of 7.31 cars per train, dropping only to 7.29 in 1932 and increasing year by year—as the effect of new passenger traffic merchandising ideas began to tell—to 8.0 in 1939, 8.17 in 1940, 8.48 in 1941 and to the new high

monthly average of 8.92 for the first eight months of 1942.

All of the statistics so far presented serve only to show that the motive power problem of American roads, with respect to passenger service, has not been one of handling more miles of traffic but of handling more cars per train at increasingly higher operating speeds and in data relating to individual roads. A substantial proportion of all the Class I roads are running up daily average locomotive mileages, in passenger service, that are far above the average for the country as a whole. One road, for example, that was averaging 155 miles a day a year ago is now running its passenger power 247 miles a day. This road is all-steam operation.

Passenger Train Operating Statistics and Motive Power Performance

	Passenger train-miles, total (000)	Passenger Train		Passenger Locomotive Performance—Locotomive Miles				
		car-miles (000,000)	cars per train	per loco. day	Total (000)	steam, total (000)	electric, total (000)	Diesel, total (000)
1929	566,184	3,905	7.31	120.3	539,700	*	*	*
1933	385,005	2,566	7.36	92.2	345,700	*	*	*
1934	386,508	2,648	7.60	100.0	346,600	*	*	*
1935	390,104	2,709	7.60	108.0	352,600	*	*	*
1936	404,787	2,842	7.69	121.4	371,858	355,375	15,213	1,269
1937	416,477	3,004	7.87	130.2	384,971	364,814	16,106	4,051
1938	393,817	2,844	7.91	122.7	357,120	332,783	16,722	7,615
1939	390,972	2,896	8.07	128.1	357,339	329,308	17,556	10,476
1940	391,619	2,936	8.17	134.8	362,312	324,075	18,456	19,781
1941	400,923	3,135	8.48	147.0	380,269	329,411	20,056	30,805
1942	277,973†	2,305†	8.92†	162.2‡	271,213†	230,507†	14,926†	25,881†

* Data not available.
† Eight months.
‡ Seven months.

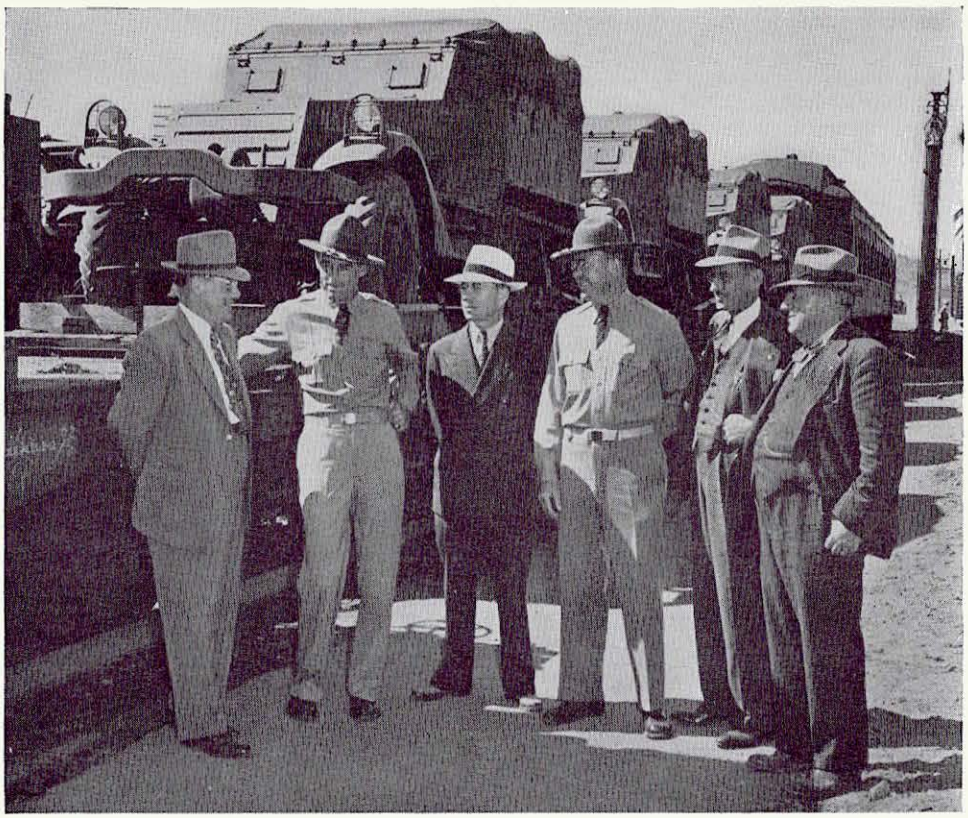
doing this job with a steadily decreasing number of motive power units.

How Has the Job Been Done?

It is an obvious fact that the present requirements of passenger service demand that motive power units, because there are fewer of them, must be in active road service more of the time and operating at higher speeds when in service. That this is being done is shown by the fact that in 1929 passenger locomotives averaged 120.3 miles a day, dropping to 92.2 in 1933 and steadily increasing until in 1940 the average daily mileage of passenger motive power was 134.8, 147.0 in 1941 and 162.9 during the first seven months of 1942. That averages such as these fail to reveal the remarkable performances that are being made every day in passenger service can be shown by a further study of operating

Another road operating trains by both steam and electric locomotives averaged 157 miles a day a year ago as compared with 201 this year. A third road, using both steam and Diesel, has stepped up its utilization from 130 to 216 miles a day. Another road, operating most of its passenger service with Diesel power has increased its daily locomotive mileage from 99 to 777 miles in 20 months.

Unlimited data might be presented but it would only serve to emphasize these facts. Modern power—steam, Diesel and electric—is carrying an increasingly heavy part of the burden. On many roads as few as 30 per cent of the locomotives are doing from 45 to 55 per cent of the work, and modern Diesel units are running 2,000 miles a month, electric units 17,000 miles and steam 12,000 miles. Check these performances against a 20-year-old locomotive and the reason for today's records will be obvious.



All Large Troop Movements Are Arranged Jointly by Military and Railway Officers

Troop Movements Take Precedence

Complete co-operation between the armed forces and the railways solves the problem of unprecedented troop movement

APPROXIMATELY a million soldiers are being handled monthly in group movements by the railways of the United States. When to these are added sailors, coast guards and marines, as well as numerous movements of groups of fewer than 50 men, the total becomes staggering, quite apart from the furlough travel and the tremendously increased civilian travel.

Handling of such an unprecedented movement would be virtually impossible without the complete co-operation of all the agencies involved. The military and naval regulations covering troop movements that were in effect at the beginning of the war were based on conditions that have undergone an almost complete change. These regulations have been and are being revised to meet present conditions and the "streamlining" of such regulations has been one of the prime factors in enabling the railways to perform the splendid job they are doing.

The size of this job is indicated by the fact that, during the first nine months of this war, the railways moved more than three times as many troops as in the comparable period of World War I. During all of last summer, more than two and one-half times as many troops were moved each month as in the comparable month of 1941, and more troops were moved in the summer of 1941 than in any similar period of 1917-1918.

Movement Very Largely Increased

The greater size of the military passenger movement today—in excess of 700 million passenger-miles per month—is accounted for in a large measure by the increased size of our armed forces as compared with the last war. This, however, is not the sole reason. A soldier of 1917-18 was moved an average of three times between induction and embarkation, whereas today, a soldier averages six moves before he leaves the country, as a result of the more intensive training program given the men in the present war.

Similarly, the movement of troops with their weapons and supplies has complicated the military passenger service. To move a triangular infantry division of 15,000 men with their equipment requires 65 trains, with a total of 1,350 cars. To move the men, plus 3,000 vehicles and other impedimenta of an armored division, requires about 75 trains of 28 to 45 cars each, depending upon the length of the freight cars used.

The speed and comfort of troop movements has also been materially increased. In 1917, the average speed

of special troop trains was 19.6 m. p. h., compared with an average speed today of 30 m. p. h. Furthermore, up to September 1, 1942, the Army alone had used more standard sleepers and tourist cars than were used during the entire last war. Except under unusual circumstances, sleeping car accommodations have been supplied for all troops on overnight journeys. In the last war, less than 25 per cent of the troops moved in Pullman equipment, whereas today, about 66 per cent of them are so handled. In September, 1942, all previous records for Pullman troop handling were broken when 835,000 troops were moved in sleeping cars, compared with the previous peak of 750,000 in August. In the first nine months of this year, the Pullman Company handled 5,185,000 troops. So far, no troops whatever have had to travel in freight equipment.

How It Is Done

A large percentage of the troop movements consists of soldiers. The system described in the following pages refers to the Army, but in the essence, men of the Navy, the Marines and the Coast Guard are handled similarly, under similar set-ups within those organizations. All Army troop movements originate with the General Staff. The details of such movements are passed on to the Passenger Branch, Traffic Control Division of the Transportation Corps, as far in advance of the actual movement as possible. This office handles all group movements of more than 49 men; smaller groups are handled by the local transportation officer. The information is transmitted immediately to the Military Transportation Section of the A. A. R., to permit arrangements to be worked out. The co-operation between the Transportation Corps and the Military Transportation Section is so complete, and of so close a nature that it is difficult to tell where one leaves off and the other begins. Notice of impending movements is frequently transmitted a month in advance.

If the movement is large and complicated, a preliminary schedule meeting is held on the ground, attended by Transportation Corps officers, chairmen of the passenger associations, A. A. R. representatives, local transportation officers and representatives of all the railways involved. At such meetings, complete details are available. If any bulky, oversize materials or machines are

Kitchens Are Established In Baggage Cars for Feeding the Troops En Route

Troops In This War Take Their Impedimenta With Them When They Move

Our Troops Are Handled In As Great Comfort As Possible

to be included on the troop trains, routes that will permit proper clearances are worked out and any other complications are ironed out. In other words, the movement is arranged by advance planning.

If the movement is a more or less routine one where such a schedule meeting is not necessary, the Military Transportation Section gets in touch with the chairman of the Interterritorial Military Committee, and the chairman of the passenger association in which the movement is to take place, and these men suggest the routing.

Gathering Equipment

The Military Transportation Section then advises the railways involved, and the Pullman Company when sleepers are needed, as to what equipment will be needed and when and where it will be needed. If sufficient equipment is not available in the immediate vicinity, railways not involved are requested to supply it. So far as military movements are concerned, the passenger-carrying cars of the country are virtually pooled when the necessity arises. The Pullman equipment is handled as an actual pool, or operating fleet of cars. The office of the superintendent of car service of the Pullman Company is now open 24 hr. a day, 7 days a week, and, through the 78 branch offices scattered over the country, the location of all the cars in the pool is known, hour by hour, so that the equipment can be placed where it is needed. The commissary and personnel problems involved in supplying and staffing the cars are extremely complex, but, fortunately, the Pullman Company has had a wide experience over the years in handling mass movements, and the technique used in handling huge conventions and other occasions that cause unbalanced traffic has been amplified and revamped to meet the present situation.

The present Army is a well-fed Army, and this reputation is confirmed, even when the troops are on the move. Since there are nowhere nearly enough dining cars in the country to use in such movements, baggage cars are fitted out and stocked as kitchen cars by the local quartermasters and the troops are fed en route at their seats or, preferably, directly from the kitchen car when the train makes a long enough stop.

All of these arrangements are carried out with the utmost secrecy. Only those who are vitally concerned know the details. Train and engine crews are not advised of the ultimate destination of the train they are handling.

The Traffic Control Division, Passenger Branch, of the Transportation Corps maintains a staff of trained officers, mostly ex-railway men, who are sent to the scene of such movements to assist the local transportation officer and others in getting the movement under way. These men render complete reports and check the regulations closely so that anything hindering the movement is eliminated as rapidly as possible. Effective loading and unloading methods have been worked out for the men and their impedimenta so that a minimum of time is lost.

The Transportation Corps is in charge of the train from the time it starts until it reaches its destination. All the railways handling troop movements have set up military bureaus, whose duties are concerned solely with troop movements and these bureaus co-operate closely with the transportation officers and keep them advised constantly as to the movements, prospective arrival and other pertinent information regarding these trains. On most railways, an executive officer devotes all or most of his time to the supervision of the movement of military traffic and the Pullman Company has assigned one of its vice-presidents to supervise this activity.

In passenger as in freight traffic, equipment is conserved on movements to ports. No troop trains are sent to any port of embarkation until the commanding officer at that port indicates to the Transportation Corps that he is ready to receive the men and materials and to unload and release the train promptly. Similarly, the Transportation Corps has studied movements throughout the country with the idea of saving power and equipment. This is, of necessity, a continuing study and much remains to be done, but, in many instances where the local transportation officer was sending groups daily to the same destination, arrangements have been worked out to consolidate such movements on a one-day-per-week basis, which greatly facilitates railway handling.

In August, 1942, the latest month for which statistics are available, 985,307 soldiers were moved in groups of 50 or more, requiring the operation of more than 3,000 special trains. The movement of so many men speedily, efficiently and comfortably represents an epic of transportation. It could only be accomplished through the complete co-operation of all concerned.

Cars on Many Railways Have Been Repainted to Advertise and Promote the War Effort

The Nation's Passenger Service Is Adjusted to War-time Needs

Railways are eliminating non-essentials and concentrating on handling troops and other essential travel

THE passenger car has practically ceased to be a pleasure vehicle and is being rapidly converted into an agency of war. Since Pearl Harbor, the railways have done a remarkable job in "clearing their decks for action"—and nowhere more completely than in eliminating wartime non-essentials in passenger service to permit more efficient handling of troops and of essential civilian travel. To a large extent their passenger sales staffs have been converted into service bureaus. They are directing their passenger advertising toward acquainting the public with the new conditions, while plans are now under way to convert the theme of the program to: "Don't travel unless it is necessary." They have taken "luxury" cars off trains or converted them for increased capacity.

From Sales to Service

The schedules of many of the streamliners have been lengthened—many of them now handle carloads of troops, and, throughout, the policy has been adopted that military needs come first. Meanwhile, non-essential travel is being discouraged through the cancellation of all-expense tours and special excursion rates of all kinds.

One of the first victims of the war-time economy was the improved sales and advertising approach that had been built up slowly and painstakingly since the revival of railway passenger traffic which began with the advent of the first streamliners in 1934. Railway tour bureaus have been abolished and passenger traffic representatives are now directing their efforts toward service rather than sales. Many of the representatives are engaged in directing troop movements, either as officers in the Army, or as special representatives assigned by the railways to the task. Others are stationed at Army and Navy bases, charged with the duty of rendering every assistance possible to soldiers and sailors on service or furlough travel. As an illustration, to serve essential travel out of Washington, D. C., a large ticket office and travel bureau have been set up in the U. S. Army headquarters in the Pentagon building at Arlington, Va., so that the essential travel of officers from headquarters to outlying points may be arranged promptly and satisfactorily.

Still other passenger representatives are riding troop trains to assist in such movements in every possible way. Others serve in the military bureaus established by each railway to facilitate troop movements. Many city and traveling passenger and freight agents have been called upon to serve as temporary or full-time ticket clerks to relieve the shortage that is rapidly developing in trained men in that capacity. Thus, what was becoming a much more alert and effective sales force has been converted almost entirely into a service force by the demands of war.

Change in Advertising

Another avenue in which the railways have changed their entire approach is in the advertising of passenger service. What was formerly the main appeal—the attractiveness of the places reached and the luxurious trains to carry people there—is now entirely missing

from railway advertising. Most railways have increased their advertising budgets, but sales talk is conspicuous by its absence in present-day railway advertisements. Instead, institutional copy is run, acquainting the public with the importance of the railways to the war effort, explaining that military needs come first so far as passenger traffic is concerned and, in general, apprising their patrons of the problems brought about by the war and soliciting their co-operation.

Courtesy Is Not Rationed

In some respects, the public response to this type of appeal has been remarkable. Surprisingly little complaint is being made by the passengers regarding the lack of the comforts and conveniences to which they have become accustomed in railway travel. They are accepting as inevitable the sometimes long waits at ticket windows, the inability to get the exact reservations they desire on the day they want them and the waiting in line to be served on dining cars. Some clever advertising has been done on several roads in this connection, urging patrons to leave the diners as soon as they have finished their meal.

The present advertising campaigns have acquainted patrons with the necessity for enduring such inconveniences and, generally speaking, passengers are accepting them as part of their own individual effort towards winning the war. This response is particularly marked on those trains where courtesy on the part of the crew prevails. There is no priority on courtesy and no military reason why passengers should not receive it. Many railways realize this and are making special efforts to see that passengers are not required to put up with unnecessary discourtesy along with the other inconveniences which are unavoidable.

Advertising to Support War Program

Apart from notification of schedule changes, advertising is now being directed entirely along institutional lines. All of the railways have ceased sales advertising or, indeed, any type of promotion to stimulate unnecessary travel. They have also contributed much space to promoting the sale of war bonds. Some roads have highlighted the modern theme in their advertising by showing streamliners on sidetracks while a trainload of tanks rolls by on the main line, with some such caption as "The

Railway Advertising Appeal Has Been Changed Completely and No Longer Urges People To Travel

Coffee-Shop Service Has Supplanted Full Dining Cars on Many Trains

The Noon Daylight, a Highly Profitable S. P. Train, Has Been Eliminated to Make Room for Wartime Traffic

Military Needs Come First." The general appeal of such campaigns on all the railways is the avoidance of week-end travel, the necessity for making reservations and buying tickets well in advance and of canceling space promptly if plans are changed, a plea for understanding and appreciating the reasons for possible late arrival of trains, and a request that only the minimum amount of baggage be carried.

Much has been accomplished in the way of educating the public, but much still remains to be done. This is particularly true of week-end travel. The American public is slow to attune this feature of their travel habits to present needs. A compilation recently made by the Office of Defense Transportation indicates that 51 per cent of the total ticket sales are made on Friday, Saturday and Sunday, leaving only 49 per cent for the other four days of the week.

The Elimination of Luxury Cars

Still another development of wartime passenger service is the disappearance of the spacious club cars of only a few months ago from the trains of the United States for the duration. Many of these cars have been taken out of service entirely while others are now being used to provide additional dining space; also seats in such lounge and club cars as are retained are now being sold to increase the available space. On at least one railway stored club cars were put to a useful purpose over the Labor Day week-end, when 12 of them were made into a train which served as a second section for overflow coach passengers.

The capacity of the railways in the critical area between New York and Washington and Richmond has been increased by some 80 seats a day by more intensive use of club and lounge cars. Previously, no passengers were carried on the New York-Florida streamliners between Richmond and New York, but they are now permitted to purchase seats in lounge and club cars for any part of the distance.

Abandoning Trains to Save Equipment

The special train of today is the troop train. No more specials will be operated for football games, world series baseball games or other sporting events. Patrons wishing to travel to such events will have to get there and back as best they can on regular trains. Ski specials and many others of a similar nature have also been abandoned for the duration. In many cases, second sections of trains normally operated during the National Parks season were canceled this year. A further saving in cars has been made by the cancelation of extra "seasonal" cars formerly operated to outlying vacation spots. These changes were put into effect voluntarily on many lines before the O. D. T. issued its order, effective October 4, "freezing" railway passenger service as of September 20-26 inclusive. On November 3, this order was amended to permit the operation of two extra New York-Florida trains for the winter season.

A continuing study is being made to conserve equipment through the elimination of poorly patronized trains and the transfer of equipment so used to places where it is really needed. The Southern Pacific, however, has gone farther than that. To give greater track capacity for its military needs, it has canceled two profitable passenger schedules between San Francisco and Los Angeles, the "Noon Daylight" and the "Sunset Limited." The former train consistently earned top figures in revenue per train mile, but the Coast division is an extremely busy stretch of railway and the sacrifice was made to the military needs.

Voluntary revision in passenger schedules, services and equipment assignments during the first six months

Lounge and Club Car Seats Are Now Sold to Increase Passenger-Carrying Capacity

of 1942 by the principal passenger-carrying railroads resulted in the release of 114 locomotives and 533 passenger cars for the urgent needs of war traffic and this trend is being continued. The daily saving during this six months amounted to 24,700 passenger train-miles, and 176,000 passenger car-miles. Measured in equipment units, the cars released by the schedule and equipment revisions are 149 mail, express, baggage, and combined cars; 150 coaches and 204 Pullman cars, of which 63 are club, lounge, observation, tavern or combination cars. In addition to this equipment, 31 rail motor cars have been released.

The locomotive and car savings effected by these schedule revisions are entirely apart from further savings that the O. D. T. is trying to accomplish through the survey now being conducted by the various state public service commissions. This survey was instituted with a view to eliminating duplicating service in local passenger train and bus schedules, thus permitting transfer of equipment from runs which are lightly patronized to others on which the need is greater.

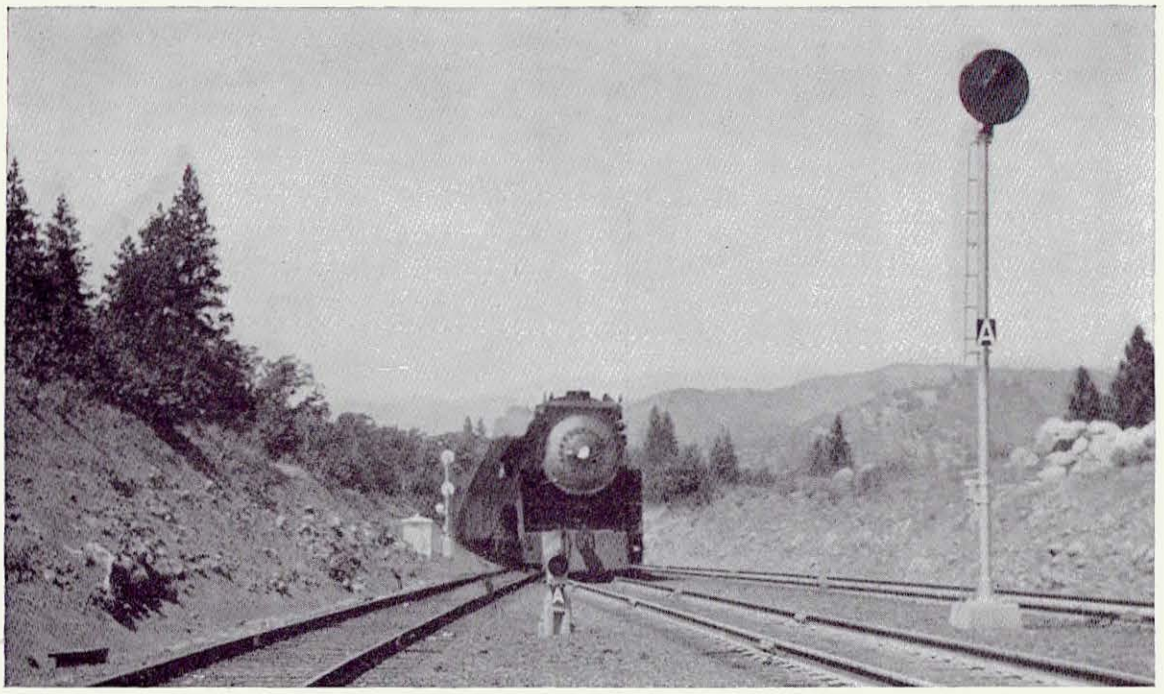
The schedules of many passenger trains in all parts of the country have been lengthened to allow for faster movement of military traffic and also to permit of handling a greater number of cars per train. Of necessity the increased traffic necessitates more station time for the handling of additional passengers and the increased volume of mail and express traffic. In the case of some transcontinental trains, schedules have been lengthened 12 hr. or more between Chicago and the Pacific Coast; the fastest New York-Chicago trains will be decelerated an hour or more.

In so far as possible, schedules have been and are being adjusted so that as reliable an on-time performance as possible may be provided. Unfortunately, slowing down schedules detracts from the all-important available car supply in that it frequently develops that where cars could be turned at the end of a run on a fast schedule and utilized almost at once, this is not possible on slower schedules. Therefore, considerable study is being given to arriving at the happy medium of having a schedule that can be adhered to with reasonable frequency and at the same time allow for the necessary turn-around and increased utilization of cars.

By-products of the war that have caused changes in passenger service include the elimination of stewardess-nurse service on several trains. These women performed a valuable and much-appreciated service, but, with a shortage of nurses in this country for Army duty, the managements of these roads felt it their patriotic duty to release these women for such services. Another feature has been the elimination of the sale of liquor on several trains. This was to permit the sale of space formerly used for club-car purposes only, and to increase the capacity of dining cars by concentrating on the purveying of food only.

The changes recited herein have been widespread. They have, in fact, revised the basic theory of passenger service in this country, which had become by far the best in the world from the standpoints of luxury, convenience and speed. Today, all factors of railway passenger service are secondary to the all-important utilitarian needs of a country at war. The nation-wide gas rationing is too recent an occurrence as yet to warrant prophesy as to its full ramifications as affecting railway travel. It can safely be predicted, however, that they will be profound.

All the changes to adapt railway passenger service to wartime conditions, as mentioned herein, will have to be studied carefully. Their cumulative effect will have to be multiplied many times if the increased business is to be handled. Above all, every consideration save that of the strictest utility, will have to be forgotten for the duration.



Centralized Traffic Control Prevents Needless Train Stops and Delays

Signaling Keeps Passenger Trains Moving During War Time

Modern systems minimize delays and bring about increased average speeds for important traffic — Have greatly augmented the capacity of tracks

THE numerous signaling projects which have been installed since the close of World War I in 1918 are now aiding the railroads in saving train time, and are thereby contributing to on-time train performance as well as to increased track capacity, so that during the present war regular passenger trains as well as extra troop trains are being handled promptly, while at the same time freight trains are being handled without excessive delays.

In contrast with the fact that the railroads now have fewer locomotives, cars and miles of main tracks than in 1918, signaling has increased not only in projects and mileage, but, of greater importance, has brought about phenomenal increases in the utilization of the tracks and equipment as measured in passenger-miles and ton-miles per train-hour. Modern locomotives now handle more cars, and the tracks have been constructed to carry trains at higher speeds, but the outstanding difference between railroading in 1918 and in 1942 is that signaling eliminates stops or minimizes delays so that the trains can be operated for a greater percentage of the time at the speeds for which the locomotives and tracks are designed.

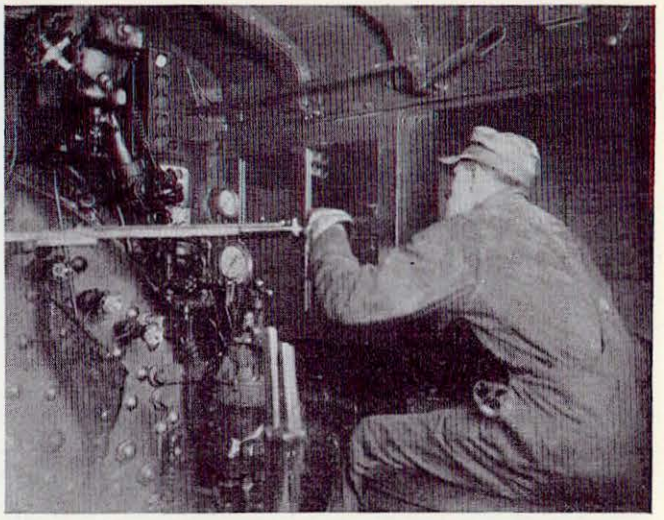
The higher the normal speed, the greater is the time required for stopping, as well as for accelerating again to the normal speed, and these figures increase approximately in proportion to the square of the differences in speed. Signaling which permits a 10-car light-weight passenger train to reduce speed to 45 m. p. h. for a train length, rather than to 30 m. p. h., will save at least one minute in each such instance. Signaling to eliminate stopping such a train, as compared with running through at maximum speeds, will save from four to eight minutes or more, depending on local conditions and the rating of the locomotive with respect to the load being handled. A consideration of importance at this time is that the quantities of critical materials required for the signaling changes or additions to permit savings in train time and to effect additional track capacity, are insignificant compared with the metals required for additional locomotives or tracks to provide equivalent benefits in train operations.

Automatic Block Saves Time

Automatic block signaling promotes safety by preventing collisions and by checking the normal position of main line switches, thus giving enginemen confidence to

proceed at maximum permissible speeds, whereas without such protection, it may be necessary to reduce speed at numerous points. Another advantage is that automatic block permits following trains to be spaced at closer intervals with safety, thus increasing track capacity. It is fortunate, therefore, that between 1918 and 1942, the railroads increased the automatic block signaling from 57,084 to 97,361 track miles. Furthermore, within recent years much of this signaling has been revised to space the signals in accordance with the increased braking distances of trains operated at the higher speeds.

As a means for reducing time spacing between trains on heavy traffic lines, some roads have installed signals which display more than three aspects. Also, on some roads, special aspects are provided whereby trains, when ascending grades, are permitted to pass automatic signals when they are displaying the most restrictive aspect. On many sections of line, totaling 8,384 track-miles in the United States, cab signaling has been provided by which means on-time train performance is assured during stormy or foggy weather, when otherwise train speeds would have to be reduced to permit enginemen to observe wayside signals.



During Fogs and Storms, Cab Signals Insure On-Time Performance of Trains

Interlockings Improved

Within recent years, numerous improvements have been made in interlockings to expedite the operations of such plants, thereby reducing delays to trains. Many manually-operated mechanical plants have been replaced with power plants, thus reducing the time required for changing line-ups. A further advancement has been the development of controls in which the interlocking is accomplished by interconnection of circuits, thereby eliminating the mechanical locking between levers, as well as electric locks. These improvements permit the use of machines with miniature levers so that a large plant can be controlled by a small interlocking machine on which all levers can easily be placed within arm's reach.

A further development eliminates levers as such, push-buttons being mounted in a track diagram, and a route, including the positioning of switches and the clearing of a signal, being accomplished merely by pushing a button at the point representing the place where the train is to enter, and then pushing a second button at the point representing the place where the train is to depart from the plant limits.

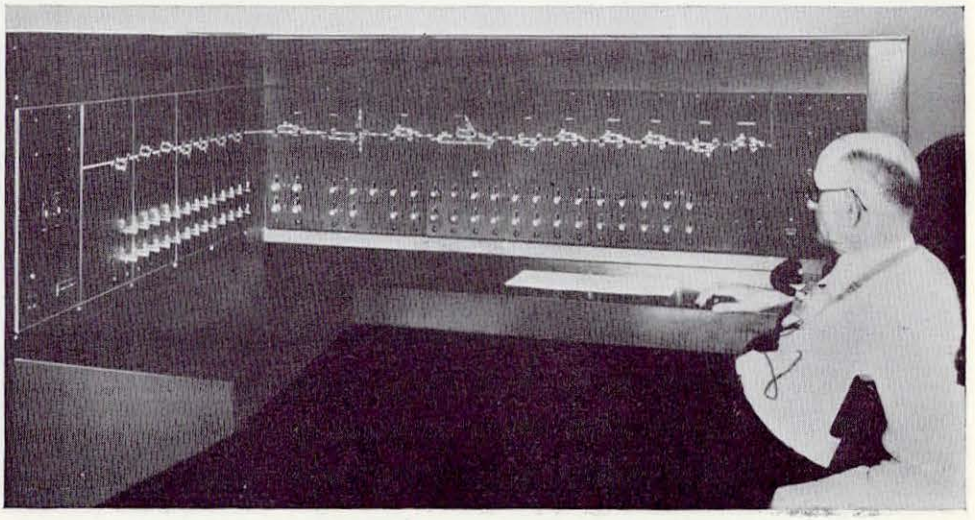
For use at outlying crossings between two roads, circuit arrangements are provided by means of which the interlocking controls are accomplished automatically by the approach and departure of trains. Because of the economy of operation, these automatic interlockings have been installed at numerous locations where interlockings of the manual control type could not be justified economically. As a result, the train stops at these crossings that were required previously as a form of protection, are now eliminated.

Similarly, at ends of double track and junctions where locally-controlled interlockings were not justified economically, remotely controlled plants have been made possible by the development of circuits requiring a minimum of line wires extending to the nearest open office.

As a result of all these developments, the railroads of the United States, on January 1, 1942, had a total of 6,742 interlockings, of which 4,904 were controlled locally, 438 were controlled remotely and 393 were automatic. Thus in the years between 1918 and 1942, the benefits of interlocking as a means for obviating train delays have been applied to numerous layouts, with the result that thousands of train stops are eliminated daily.

Train Operation By Signal Indication

Still another development in signaling that is expediting the movement of war-time traffic is the perfection



With Centralized Traffic Control, the Operator Knows The Locations of All Trains And Can Make Close Meets

of coding equipment whereby a two-wire circuit can be used to control signals and power switches at numerous locations on any length of territory up to a complete operating division, thereby making available the benefits of power switch machines as well as semi-automatic signals for authorizing train movements by signal indication without the use of time tables and train orders. Such systems, known as centralized traffic control, are now in service on 2,703 miles of track in the United States, these projects including 1,676 power switches and 4,285 semi-automatic signals.

32 Trains Increased to 60

In brief, centralized traffic control keeps all trains, passenger and freight, moving with a minimum of delay. The time required by a train to make a move from one passing track to another is reduced approximately 15 minutes. As a result, the track capacity is increased, and the efficient handling of increased traffic is facilitated.

For example, on one 87-mile section of single track where the normal traffic was from 24 to 32 trains daily, but now ranges from 45 to 60 trains daily, the centralized traffic control permits all these trains to be moved promptly when ready to go, thus eliminating useless delay at terminals or junctions, and, furthermore, the time en route has been reduced as compared with that required when operations were governed by time table and train order with hand-thrown passing track switches.

As expressed by one operating officer, "We would now be 'snowed under' if we did not have the C. T. C." It is fortunate, therefore, that these C. T. C. facilities were installed on 2,703 miles of track before the present emergency arose.

It is because of the proven ability of C. T. C. to move the nation's record traffic, including troops and war materials, that the War Production Board has allocated the materials required for the installation of centralized traffic control on numerous sections of single track, totaling at least 700 miles, on which traffic has increased from a normal of 15 to 20 trains daily to as much as 45 to 60 trains or more. In spite of the scarcity of certain materials, such as copper and rubber, this procedure is thus recognized as the quickest means for increasing track capacity with the smallest amounts of metals or equipment.

A Thrifty Means to Capacity and Speed

In brief, interlockings, automatic block, and centralized traffic control are contributing very directly to the movement of the nation's traffic at higher overall average speeds than would otherwise be possible, and by this means, these signaling facilities increase the track capacity so that more trains can be operated without delays.

Helpful Reading for Policy-Makers

The time appears, unfortunately, to have passed when the management of a railroad, or any other business, can keep its company prosperous simply by conducting its own operations efficiently. With the advent of the all-powerful state, politics now is the principal determinant of the degree of industrial activity, and the opportunities, if any, which a business may have of operating profitably. This change has made the responsibilities of top management far more difficult and comprehensive. Managers still have just as big a job as ever in evolving methods for increasing the internal efficiency of the business—but they also have to attend more to developments affecting their industry as a whole; or all industry. Political exigency has forced companies in the same business into (strictly legal) collaboration, both with each other and with governmental agencies —so much so that, in the railroad business for example, many top managers have to spend more time on inter-company and governmental relations than they have left to devote to internal affairs.

Why External Conditions Require Analysis

The result of these changes is that watching national political developments—and world-wide ones too—for their effect on future business becomes just as much a managerial duty as attending to internal operation; because the accuracy with which these external conditions are estimated, and company operations adapted thereto, may have as much to do with company profitability, or its absence, as the degree of internal operating efficiency.

Two books have recently appeared which should prove helpful to railroad men who are attempting the hard job of trying to keep abreast of the more fundamental political forces, likely to affect the railroads' future. One of these books deals with probable international economic conditions following the war. The other turns a searchlight into some of the darkest corners of the fundamental problem of employee and public relations.

The work on post-war international economic prospects is called "Agenda for a Postwar World." * The author is I. B. Condliffe, economics professor at the University of California—a scholar well-qualified in the field of international trade, having for some years been associated in such studies with the International Chamber of Commerce, the Rockefeller Foundation and the League of Nations. The author does not take a definite stand for or against more or less government control over commerce and industry. He believes that "the realities of a desperate situation may give little scope for doctrinaire advocacy of free enterprise or socialist planning."

Post-war problems, in his opinion, are going to flood in upon us so fast that expediency will require that they be handled by whatever agencies are then available. He foresees that "wartime procedures and mechanisms" will be prolonged into the demobilization period. (This sounds like a good reason for resisting the spread of government control *during* the war, except in those instances where "bigger government" advocates can demonstrate that their programs are undeniably essential to the success of the war program.)

Will Russia Dominate the Peace?

The author believes that the economic situation in the world following the war may be materially different depending upon whether the Nazis are beaten (1) primarily by Russian resistance and counter-attack or (2) largely by American production or military action. (This suggests, perhaps, one of the reasons why so many voices in this country have been belittling American contribution to the war effort, while they loudly insist—not only that we admire the Russians' bravery, but that we also accept their political system and accord Communists in this country the status of loyal Americans.)

There is going to be a big call on America after this war for food for starving populations. The author hopes we will extend aid, as far as possible, by restoring self-help and political stability, rather than by unlimited hand-outs. He sees the danger of a move toward economic nationalism, which would tend to germinate another war—and he adjures statesmen and business men to take the long-run view, instead of that of immediate self-interest. World-wide economic prosperity depends upon "multilateral" international trade—not the bilateral "barter" system which has been the only kind of foreign trade left since governments took it out of private hands (after first killing off the commerce by prohibitive tariffs and quotas).

No "Social Security" When Industry Stagnates

One of the principal obstacles to renewed world-wide trade and prosperity to which the author draws attention is the "vested interests" which have grown up in almost every country, protected from foreign competition—especially the interest of organized labor in artificial levels of wages. "The tragedy of most government intervention in recent years is that it has been negative, a series of efforts to buttress and preserve this or that group interest." Governments, the author says, have imposed "rigidity where there should be adaptability," maintained "prices that should fall," and reduced production in low-cost areas, while fostering it where costs are high. *"Social security is not won by protecting vested interests. Stability which leads to stagnation gives no security."*

The author is far too complacent with shadowy "social objectives," which, in point of fact, are too often just polite names for the "vested interests" against which he properly inveighs. He also accepts large programs of public works—unable apparently to comprehend that these undertakings are simply the obverse side of prohibitory tariffs, and that they also inevitably foster production where it is costly and inhibit it where costs are low. There are other parts of his discussion—especially of internal economic policy—which are heterodox and New Dealish, but the author's views of international trade (which is plainly his field of special competence) are illuminating and sound.

The book is not long. It is simply written. The *discriminating* reader can obtain from it a reasonably accurate measuring rod by which he can gage developments in our policies toward international trade; and can readily use such a standard of measure to judge whether these developments will lead to prosperity or to further world chaos and depression. Such knowledge by one or more men at or near the top of a railroad should be very helpful in keeping it informed what to prepare for; so it may adapt its operations in advance for what is coming.

A Philosophy of Public and Employee Relations

The second book to which attention is drawn here is far more profound—and relates to matters in which managements are not spectators (as in foreign trade policy), but protagonists. This book is called "The Future of Industrial Man," † and, for those who will take the trouble to understand it, it provides a comprehensive theory embracing practically all problems of dealing with the public and with employees.

Why is large-scale enterprise in the spot that it is in? The author has a complete answer to that question—and the answer implies the nature of the solution. But this is philosophy (with large ingredients of history, psychology and economics) and the reader who ordinarily limits his studies to treatises dealing only with quantitative facts will not find it so easy to ingest.

The author bases his analysis on the concept of "legitimacy." An enterprise or institution is "legitimate" if it derives its power from some generally-accepted moral principle. Management of property which the manager owns is based upon the accepted right of private property—that is, such management is "legitimate." But, the author contends, management which is itself employed is not "legitimate"; that is, its right to manage does not rest on any generally-accepted moral principle. (The difference, at least until recently, between the popular view of Henry Ford and the managements of other large industries illustrates the distinction between a "legitimate" management and an "illegitimate" one.)

By the use of these terms the author implies no criticism of industrial managers. On the contrary, "there has never been a more efficient, a more honest, a more capable and conscientious group of rulers than the professional management of the great American corporations today." However, he goes on to say,

* Published by W. W. Norton, New York, price $2.50.

† By Peter Drucker. Published by John Day Co., New York. Price $2.50.

good qualities cannot cure a bad title. Managements have not deprived the stockholders of their rights; instead the stockholders have abdicated.

Managers are not the only "illegitimates" in the author's analysis of the present control of industry. Unionism has, if anything, even less claim to acceptance as "legitimate." Socialism or government "planning" afford no solution to this unstable condition. In fact, "the main attack of the Planners is not directed against improvisation and unpreparedness but against the separation of political government from rule in the social sphere."

There was plenty of genuine and effective planning in "the settlement of the Northwest by the transcontinental railways in the 1870's and 1880's." The Homestead Act of 1862 was genuine planning. So was the international gold standard, now discarded by the politicians. The author believes that we need more of this realistic and practical planning—and a great deal less of the kind of "perfect" blueprints which our bureaucrats are attempting to set up. The choice is between genuine planning based on practical knowledge, which accepts present institutions and limitations, and that which is based on nothing more than the pride of the bureaucrats in their assumed superior mental ability which has given them the key to perfection. These "planners," says Mr. Drucker "visualize their rule as benevolent and enlightened despotism. They refuse to see that all despotism must degenerate rapidly into rapacious, tyrannical oppression. . . . But even if a benevolent despotism were possible, it would still be incompatible with freedom."

The idea of "freedom" popularly accepted today—that is, that a society living under unrestrained majority rule is free—is utterly rejected by this author. Instead, *"freedom is a right and a duty of the minority and the individual, independent from, and against, the rights of the majority."* Again, "election by majority in no way guarantees the selection of the wise, the just and the best." There is no way of telling for certain that, in any instance, the majority is right and the minority is wrong—hence the power of the majority must always be restrained. There is no such thing as a "best government"; if there could be, then that government should, obviously, have absolute power. Technical questions (such as the number of degrees to a right angle) can be given absolute answers, because they are independent of the human will—but choice enters into political decisions and there is no way of telling, for sure, and for all time, whether even the wisest men are choosing correctly or not. Freedom, thus, is a necessary corollary of man's imperfection.

Some of so-called "freedoms" of the Atlantic Charter are not what this author means by the word. *"Real freedom is not freedom from something.* . . . It is freedom to choose between doing or not doing something, to act one way or another, to hold over belief or the opposite. It is never a release and always a responsibility."

The American Revolution, in this author's view, was not at all like the French Revolution. Our Revolution, established the common law and independent courts—while the French uprising put its trust in "perfect" law codes. It assumed human perfectability through "planning." Our American forefathers built upon existing institutions; they did not try to manufacture totally new ones concocted by "experts" and "brain trusts."

Men cannot foresee the future. They must base their political and social activities on existing social and political reality—not on an ideal society. "It is common sense pitted against Absolute Reason, experience and conscientiousness against superficial brilliance. It is plodding, pedestrian and not spectacular—but dependable."

Many railroad men read the "Managerial Revolution" by James Burnham with deep interest. In the opinion of this observer, "The Future of Industrial Man" is a far more penetrating book; more constructive; more convincing; more practical; more in accord with American principles; and more interesting. We shall not take the space here to reveal the solution which the author proposes to the unhappy situation he describes—but a hint may be given by saying that his proposal accords fully with the doctrine set forth in "Sharing Information with Employees," a book which was reviewed in these pages in our August 1 issue, page 176.

Bureaucrats "Plan" Post-War Jobs for Themselves

"If there was any reason or occasion for the making of the report on post-war handling of transportation facilities in the United States which the President has transmitted to Congress, this newspaper would like to know what it was. The report is described as the work of an advisory committee to the National Resources Planning Board, the body which has been busily describing the necessity of a maximum immediate output of blueprints for spending public funds on a gorgeous scale.

"Its latest opus is rich in vague hifalutin. It is equally rich in implications of alleged fact which simply aren't so. It dwells upon the need of a government agency to coordinate all transportation, ignoring the fact that the Interstate Commerce Commission has long possessed extensive regulatory powers over railroads, water carriers and highway transport. Air lines are now under the tutelage of the Civil Aeronautics Board. . . .

"Incomprehensibly, the committee asserts that what was (at some unspecified time) regarded as a surplus of transportation facilities is now seen to have been a shortage. If it is referring to the decade of the 1930's, the indisputable fact is that there was then a great surplus. Even today, in the midst of the war emergency, there is yet no actual shortage of transportation within the United States which is not due to specific enemy operations. If the committee apprehends a post-war shortage, it must have overlooked the importance of a gradual, more likely a rapid, diminution in the volume of war-made freight and passenger traffic, the number of usable Army trucks to be released for commercial service and the passenger plane capacity to be similarly set free. Since the turn of the century this country has had a surplus of transportation facilities during a greater portion of the time than it has suffered shortage. Contrary to the committee's hazy impression that full use of transportation has been inhibited by high rates, the United States has long led the world in per capita ton-miles of freight service and passenger-miles of travel.

"This committee is only 22 years behind Congress in plumping for consolidation of railroads into a smaller number of systems. Meanwhile a considerable amount of system integration has been going on; more would have taken place had Congress itself not raised barriers by providing for the preservation of competition 'as far as practicable' and, more importantly, by intervening against the displacement of employees, the only way in which consolidation can be made to yield substantial operating economies. The committee seems to assume that Congress and organized labor will be sweetly reasonable about this, so that freight rates and passenger fares may be co-ordinated downward.

"More flexible financial structures, the committee thinks, would be desirable for the railroads, not having heard that those which became insolvent during the past dozen years are being provided with the most flexible structures imaginable or that the capitalization of the others proved flexible enough to keep them solvent through an unprecedentedly long and severe depression. . . .

"We are not at the moment advised who prepared this report for a prodigally advisory committee. Whoever he is, he wishes to see public ownership of much if not all of the fixed plant of transportation, a sure precursor of complete nationalization of railroads, air and water lines and highway carriers. Not that the report openly favors this ultimate. It merely shows how the skids can be placed under private ownership. The process admittedly involves the expenditure of untold public funds, but that—so we are told again—will put the national income on a permanently high level. And the spending, naturally, would be directed by a select group of federal co-ordinators. . . ."

—From the Wall Street Journal

STEAM POWER IS STILL SUPREME

FAST-FREIGHT... for livestock delivery

One of The Soo Line's Modern Lima-built Steam Locomotives of the 4-8-4 type hauling vital livestock from Minneapolis to Chicago.

The North Central Section of the United States is one of the largest livestock producing areas in America. The importance of livestock as food often overshadows its other contributions of leather, fats, wool and other by-products—all of which are so necessary to America's war economy.

To keep these products of the North Central States rolling to market, and rolling fast, the Soo Line provides daily freight service to the meat packing center of Chicago. Modern freight locomotives are essential to this service and Lima-built power is doing an outstanding job in "keeping them rolling."

Steam power is still supreme in providing fast freight service.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED INCORPORATED, LIMA, OHIO

Railroads-in-War News

Henderson Wants to Control R. R. Rates

OPA director thinks that he is better fitted for job than experienced agencies

The Price Stabilization Act or Norris amendment "certainly included the implication that rail freight rates must be controlled if inflation is to be controlled," according to Leon Henderson, director of the Office of Price Administration in a statement to the press following his talk at the annual meeting of the National Association of Utilities Commissioners at St. Louis, Mo., on November 10-12. He also referred to "hardships" which Ex Parte 148 had worked upon certain commodities, industries and localities and stated that while no definite plan for "attacking" rate increases permitted under Ex Parte 148 had been worked out, the "attack" would be made.

In his address before the meeting, Mr. Henderson said that in adopting the Price Control Bill, Congress had taken a view that so far as transportation and utility rates were concerned, control had better be left with the regulatory bodies, but at that time the natural effect of those rates on prices was unappreciated. Conditions since have indicated that those rates, along with agriculture prices and wages, would have to be frozen if any effective price ceiling structure was to be established. The act, he said, established a Congressional policy of putting ceilings on all prices, including charges of transportation and utility companies.

The rates of common carriers were specifically excepted, but the fact that the amendment made it necessary for carriers to notify the war agencies of intentions of general increases clearly showed its intent. It has been recognized, he continued, that maladjustments of freight rates threw out of kilter the price control and inflation control program that was geared to the war effort.

The program of the meeting included reports and addresses dealing with the work of state regulatory bodies during the war and the effect of federal legislation upon the procedures of state bodies. A number of representatives of governmental agencies, including Joseph B. Eastman, director of the Office of Defense Transportation, addressed the meeting.

Officers elected for the ensuing year are as follows: President, F. W. Matson, commissioner of the Minnesota Railroad and Warehouse Commission; first vice-president, W. O. Martin, chairman of the Louisiana Public Service Commission; second vice-president, J. McConnaughey, chairman of the Public Utility Commission of Ohio; general solicitor, John E. Benton, re-elected; and secretary, Ben Smart. The 1943 convention will be held in Chicago, beginning September 14.

A special war committee, after reviewing the relationships between state regulatory bodies, and the War Production Board and the Office of Defense Transportation, stated that a year ago the committee took the position that the existing trained personnel of the state commission was better able to handle the enforcement of ODT orders than its inexperienced staff. "We are more than ever convinced of the correctness of our position," the report continued.

"We have seen orders issued, postponed and finally withdrawn with a total net result of a great deal of waste in time and money and unnecessary disturbance of the transportation industry as well as the general public. A fair and honest survey of the work of this agency fails to reveal any substantial good that has been accomplished. Such benefit as might flow from certain of the orders has not been realized by reason of the inability of the ODT to enforce even those provisions, such as the circuity and over-loading provisions of the motor carrier orders.

First L.C.L. Pool Under ODT General Order No. 1

Railroads operating between Memphis, Tenn., and Jacksonville, Fla., have been authorized by the Office of Defense Transportation to pool their l.c.l. traffic and alternate their merchandise-car operations. The authorization is carried in Supplementary Order ODT No. 1-1, and it is the first pooling arrangement under the terms of General Order No. 1, the l.c.l. minimum loading regulation.

The supplementary order, issued on November 14 and effective the same day, was made public by ODT on November 16, the press release stating that "ODT officials" had said that the action "should point the way for other railroads whose lines operate between the same terminals, and who have been unable to meet the minimum load requirement under individual operation, to seek similar pooling authority."

The Memphis-Jacksonville arrangement provides that the St. Louis-San Francisco shall load and forward a merchandise car from Memphis to Jacksonville on six days of each week. The car must be routed to alternate daily between a route via the Frisco, Central of Georgia, and Seaboard Air Line, and a Frisco-C. of G.-Atlantic Coast Line route. The Frisco is authorized to disregard shippers' routing instructions "to the extent necessary to enable it to forward such traffic from Memphis in the merchandise car first leaving after the receipt of such traffic at Memphis."

Jeffers Gives Labor A Friendly Warning

Says management at one time was short-sighted, labor now makes same error

"Management has been short-sighted in the exertion of its power in times past when it should have elected to guide rather than to rule. Labor has been equally as short-sighted when it tasted new-born power in recent years and in mis-guided efforts to protect its gains, particularly in the past few months, has risked the good will of the public. These things must pass in order that we may win the victory and must permanently be discarded if we are to win the peace."

So spoke W. M. Jeffers, president of the Union Pacific, and National Rubber Director, before the New York Herald-Tribune Forum on November 16 in discussing "Men and Management in America."

"Of all the economics that I know," Jeffers said, "I believe that I am most profoundly conscious of the economics of the man who eats in the kitchen. The prevailing hope of this man is that his children will inherit the comfort of a spick-and-span dining room. Upon the productive efforts, the fighting efforts and the future thinking of this man of the rolled-up sleeves depends, I believe, the economic freedom of the world.

"Upon the way these men think, and act upon their thinking, depends the economic freedom of the world in the dire times that lie ahead. I know labor and I know management, having been a part of both. Only when they work in complete harmony can the economic freedom of the world be soundly determined. Much blood and many tears will be wasted if we do not learn this lesson now in our moment of extreme trial."

Mr. Jeffers went on to say that a democracy accepts war with less grace, perhaps, than other peoples. He pointed out, however, that with the righteousness that gives a democracy free speech and the opportunity of open criticism comes an indignation and eventually a fierceness "that is stronger than any coercion that a dictator might in any way, through fear or bayonet, bring to his people.

"It is this vigor, now coming to fruition in our citizens, which will give us the energy, the strength, the fortitude, the men and the materials to win this war."

Mr. Jeffers told the forum he did not subscribe to many of the ideologies of regimentation or near-socialism which, he said, are at one end of our frequent national discussions. "Nor would I care to defend the

(Continued on page 858)

News Department continued on next left-hand page

how to AVOID keeping locomotives WAITING FOR REPAIR PARTS!

Franklin is frequently urged to rush repair parts for locomotives undergoing repairs.

Today the delays caused by wrong priorities, difficulty in obtaining materials and the concentration of machines on war work, make it almost impossible to give the former prompt response to such requests.

For your own protection we suggest ordering currently against requirements that you know will be called for by planned maintenance schedules.

This is permissible under WPB regulations and will prevent delay in restoring locomotives to service.

FRANKLIN RAILWAY SUPPLY COMPANY, INC. NEW YORK CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

Limiting of Hauls Opposed by A.T.A.

Though accused of promoting idea, railroads don't like it either

Plans to limit truck hauls and divert short-haul railroad traffic to the highways are being discussed by the Office of Defense Transportation which is getting ready for action along those lines if such action should become a necessary conservation measure as rising traffic makes the equipment situation more serious. This became known last week after Ted V. Rodgers, president of American Trucking Associations, had issued a statement denouncing what he called "a behind-the-scenes attempt of railroads to dictate the distance over which shipments by motor vehicle may move, under the specious plea of necessity to conserve equipment."

The railroads are understood to be opposed to any traffic-dividing scheme, although they did respond to an ODT request which went also to shippers and the trucking industry, for comment on such a proposal. Especially would the railroads oppose any set-up which contemplated their handling rail-truck traffic beyond the truck-haul limits under special rates and arrangements whereby the trucker, operating like a freight forwarder, would in effect remain the shipper's agent for the entire haul.

It was stated at ODT that work on the proposal got under way several months ago as a result of suggestions received from the War Department. Studies are still going on, and no tentative order has yet been drafted. Many practical difficulties have been recognized, and matters still under consideration include the position of short-line railroads under such restrictions, the effect on plants laid out for only rail freight service or only for truck service, inter-plant haulage of a single company with scattered plants, and the effect on the working of ODT's minimum l. c. l. loading order. To some in ODT, the proposal, like travel rationing, looks like an impossible job; but the impossible may nevertheless have to be attempted.

A. T. A.'s characterization of the railroad submission as a "behind-the-scenes attempt to dictate . . ." was appraised at ODT as not entirely fair. It was explained that shippers and carriers—both rail and truck—had been asked for comments; and that a committee of railroad traffic officers had submitted a tentative plan for making the proposal effective. It was emphasized that no order would be drafted until all interested parties had the opportunity to make their own suggestions and to criticize the suggestions of others.

A. T. A. President Rodgers' statement attributed the railroad suggestions to a "special law-operating-traffic committee of the Association of American Railroads." It is understood that the railroad suggestions would contemplate the restriction of truck hauls to distances of no more than 250 miles, with an exception for shipments of household goods and uncrated furniture, and a proviso stipulating that coal could not be transported more than 100 miles by highway. Also, they suggest provisions for the issuance of ODT special permits, and the possibility of reducing the 250-mile limitation in particular regions and at different periods.

The suggestions also propose that no property be transported by railroad in freight cars, with various exceptions, for distances under 50 miles. Railroads would not carry freight when both its origin and destination were within the same municipality or within or between contiguous municipalities, or within a zone adjacent to and commercially a part of such municipality or municipalities. Exceptions would be made where no other transportation was available and where the freight was unsuitable for handling by truck.

Direct war-connected shipments of the government would, under the railroad suggestions, be exempt from the limitation plan. In his statement, A. T. A.'s Rodgers assailed the railroad suggestions one by one, making the general assertion that the trucking industry "wants no part of" the proposal. Neither does the railroad industry, it would seem from reports in well-informed circles.

L. N. E. R. Conducts Training Course for Clerical Workers

The London & North Eastern has been conducting an experiment in the wartime training of new clerical employees. It has established a school at Scarborough, which, the Railway Gazette (London) reports, if proved successful (at present results would indicate it will) may be extended.

About 20 women station clerks were selected to take a course consisting of a month's intensive training in general clerical work such as would be required at any station on the line. The sale of tickets, the answering of passengers' questions, correspondence, filing, invoicing, and the handling of parcels and miscellaneous traffic and the accounting work which such transactions entail, are all thoroughly explained by a qualified instructor, who is a member of the clerical staff and familiar with the problems involved. Throughout the course the value of courtesy and tact in dealing with the public is emphasized.

So that the course may not be all theory, and that the trainees may have some practical experience, they take turns, both at the school and at nearby stations, at being either behind or in front of the window. Questions asked by those representing the public are left entirely up to the individual trainee posing the question, and the student behind the window is expected to give a satisfactory answer. Dummy parcels are weighed and charged and tickets issued.

At the end of the four-week period a searching written examination is given and the trainees are then assigned to the jobs to which they seem best fitted.

While attending the course, trainees are provided with board and accommodation at a private hotel in Scarborough, with a senior member of the staff in attendance as welfare organizer. Although the L. N. E. R. has conducted classes on various subjects in the past, this is the first full four-week residential course attempted.

Coast RRs Proud of Scrap Record

Recount accomplishments and tell how the job has been done

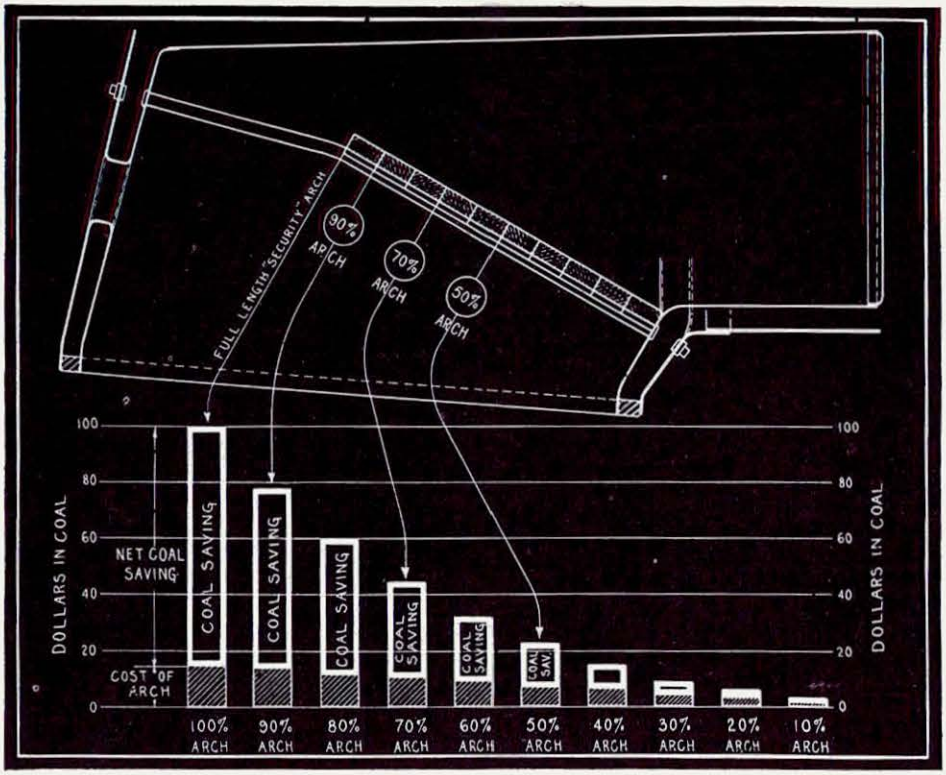
Railroads on the Pacific Coast are accomplishing extraordinary results in collecting scrap and releasing rail for the war effort and are continuing their drives with vigor in the face, however, of a labor shortage, it was brought out at a meeting of the Pacific Railway Club in San Francisco, Cal., on November 12. Following an address by B. C. Bertram, chief of the railroad unit, Conservation Division, War Production Board, S. L. Bouque, assistant general storekeeper, Southern Pacific-Pacific Lines, reported that the Pacific Lines, during the first seven months of the current year, turned in 10,450 tons of miscellaneous scrap and scrap rail, over and above what was considered its regular accumulation, and also released 2,523 tons of second hand rail, exclusive of abandonments of branch lines and spurs.

During the first nine months of this year, he said, the Pacific Lines sold or used in the company's industries 99,000 tons of scrap metals and sold 10,750 tons of second hand rail for use in defense plants, Army and Navy bases or other industries vital to the war effort. In addition, the mechanical department changed over 450 items formerly made of copper, brass or aluminum to castings or forgings of cast iron, steel or malleable, thus releasing these vital materials for the war program. Although the War Production Board specified that the amount of tin used in the manufacture of products must not exceed 40 per cent of the amount of tin used in 1940, the mechanical department of the railroad, he said, has to date reduced this figure to 30 per cent in the face of increased demands for tin.

A committee on scrap was formed during 1941 to make a thorough survey to ascertain the quantity of scrap and other material that could be made available. The general committee consisted of the general purchasing agent, the general storekeeper, the assistant superintendent of motive power and the general track inspector of the maintenance of way department; while committees were also formed on each of the operating divisions and at the four general shops. The general committee covered the entire system and its findings and recommendations were followed up by the local committees, resulting in a large amount of serviceable material and critical material being turned back to the stores for disposition or future use.

After the country entered the war, however, renewed efforts were directed to turn in metal which was in use, but which could be dispensed with. Motor car tracks at section tool houses have been removed and the steel rails replaced with wooden rails. All rail in use as bearings of any nature were replaced by wood, and signs and markers on the right of way were re-

(*Continued on page 858*)



THE EFFECT OF ABBREVIATED ARCHES ON FUEL SAVING

FUEL CONSERVATION... a wartime need!

Fuel wastage is a two-fold loss; the fuel itself and the transportation necessary to haul it. Because of the strategic importance of fuel to the war program every effort must be made to conserve this vital material.

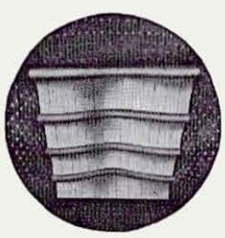
The fuel economy of Security Sectional Arches has been thoroughly proved in over 32 years of service on American railroads. But only a *complete* Arch can produce maximum fuel savings.

You need a full Arch for full fuel economy.

THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
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60 EAST 42nd STREET, NEW YORK, N. Y.

Locomotive Combustion Specialists

Beyer Urges Labor Training Programs

Calls roads' present methods inadequate for critical shortage now faced

A survey of railroad labor conditions has disclosed that on 101 Class I railroads there were 60,000 vacant jobs on September 15, Otto S. Beyer, director of the ODT Division of Transport Personnel, announced November 15. This figure, he explained, does not mean that there were actually 60,000 vacancies that could not be filled, since it includes the normal turnover of employees that accounts for a substantial number of vacancies on any given day, but, he added, it does "reveal a real and critical shortage of railroad labor. Responses to the survey, moreover, specifically indicate that the carriers are encountering extreme difficulties in meeting many shortages."

The railroads reporting represent 97 per cent of all Class I railroad employment, Mr. Beyer said. He called attention also to the fact that these roads now employ only 40,000 women and 34,000 of that number are engaged in clerical work. In World War I the railroads employed approximately 100,000 women, and "probably could employ a much greater number now."

Mr. Beyer called upon the railroads to adopt three measures to meet this growing problem of labor shortage—increased employment of women, centralization of personnel activities, and modernization of training programs. Of the 101 Class I roads reporting in the survey, 47 have absolutely no organized programs for training employees, he said, and many of the others have only very limited projects.

The ODT personnel director called attention to two obstacles that have retarded the institution of "improved training programs." One is what he termed the accepted railroad practice of decentralizing personnel functions, so that only a few roads have an office or a single officer definitely charged with responsibility for employee training for the entire railroad. This scattered responsibility not only lowers the effectiveness of any training program that may be in operation but also makes it difficult for the railroads to get a complete picture of their training requirements and problems, he said.

Another obstacle to the adoption of effective training programs that Mr. Beyer listed is "the traditional railroad concept of training," in which a new man starts at the bottom and "picks up his occupational education through years of experience on the job." Whatever merits this practice may have in peacetime, he declared, "it is clearly inadequate in time of war, when training must be accelerated to meet urgent manpower shortages."

The survey indicated that the railroads are meeting particular difficulty in filling apprentice jobs, as eligible young men show little interest in a long apprenticeship when an abundance of well-paying jobs are available and induction into military service is more or less imminent. Actual shortages of extra-gang laborers were reported by 37 railroads in the survey, and 53 reported a shortage of section laborers. Difficulty in filling machinists' jobs was reported by 60 railroads which have altogether more than a million employees. Other jobs in which shortages were reported include clerks, firemen, brakemen, boilermakers, carmen, telegraphers, and skilled helpers in many trades.

Vacancies reported, which, as stated, included normal turnover as well as actual shortages, included openings for 29,765 sections hands and extra-gang laborers, 4,464 shop and stores laborers, and 1,685 miscellaneous unskilled laborers. In the skilled occupations there were vacancies for 1,981 machinists, 1,851 carmen, 523 boilermakers, 356 sheet metal workers, 309 bridge and building painters, and 876 telegraphers. Vacancies reported in train service positions included 2,565 for brakemen and 827 for firemen. While the "senior services" ordinarily are filled from the ranks of junior operating employees, the ODT announcement pointed out, the reporting railroads nevertheless listed 116 openings for engineers and 30 for conductors.

Some railroads have met with success in instituting training programs, the survey disclosed, and others are now engaged in overhauling their methods to meet current conditions. Some roads are giving organized training to prospective dispatchers, ticket agents and office machine operators; 19 are training telegraphers under a regular program; and comparable formal programs are in operation for office clerks, brakemen and firemen on a small number of roads.

While such training programs seldom include formal classes for the instruction of new employees, it was pointed out that the traditional on-the-job training procedures have been accelerated and modified. On some roads special courses have been set up to train foremen and other supervisors in ways to break in new men assigned to work under them. One railroad was said to have 1,181 supervisory employees enrolled in such courses, given by federal and state agencies.

Selective Service Rates Equipment Building as "Essential"

The Selective Service System has issued Occupational Bulletin No. 38, calling to the attention of local draft boards a War Manpower Commission certification that the production of transportation equipment is an activity essential to the support of the war effort. The bulletin lists 88 "critical occupations" in the equipment-building industry.

Like previous bulletins, it suggests that, in classifying registrants employed in these activities, local boards should give consideration to the training, qualification, or skill required for the occupation; the training, qualification, or skill of the registrant; and the availability of persons with qualifications or skill, or who can be trained to replace the registrant, and the time in which such replacement can be made.

Examiner Weighs WPB Abandonments

Machinery now operating for ODT certification of these projects

Putting into effect the new Office of Defense Transportation procedures for "clearing" War Production Board projects for requisitioning railroad lines considered by the latter to be non-essential to the war effort, Examiner Ralph H. Jewell, loaned by the Interstate Commerce Commission to ODT, last week submitted to ODT Director Eastman his first recommendations for action to be taken by that office in certifying whether or not selected lines are "essential to transportation service during a war economy." A general outline of the treatment given WPB proposals under the new arrangement appeared in *Railway Age* of October 31, page 704.

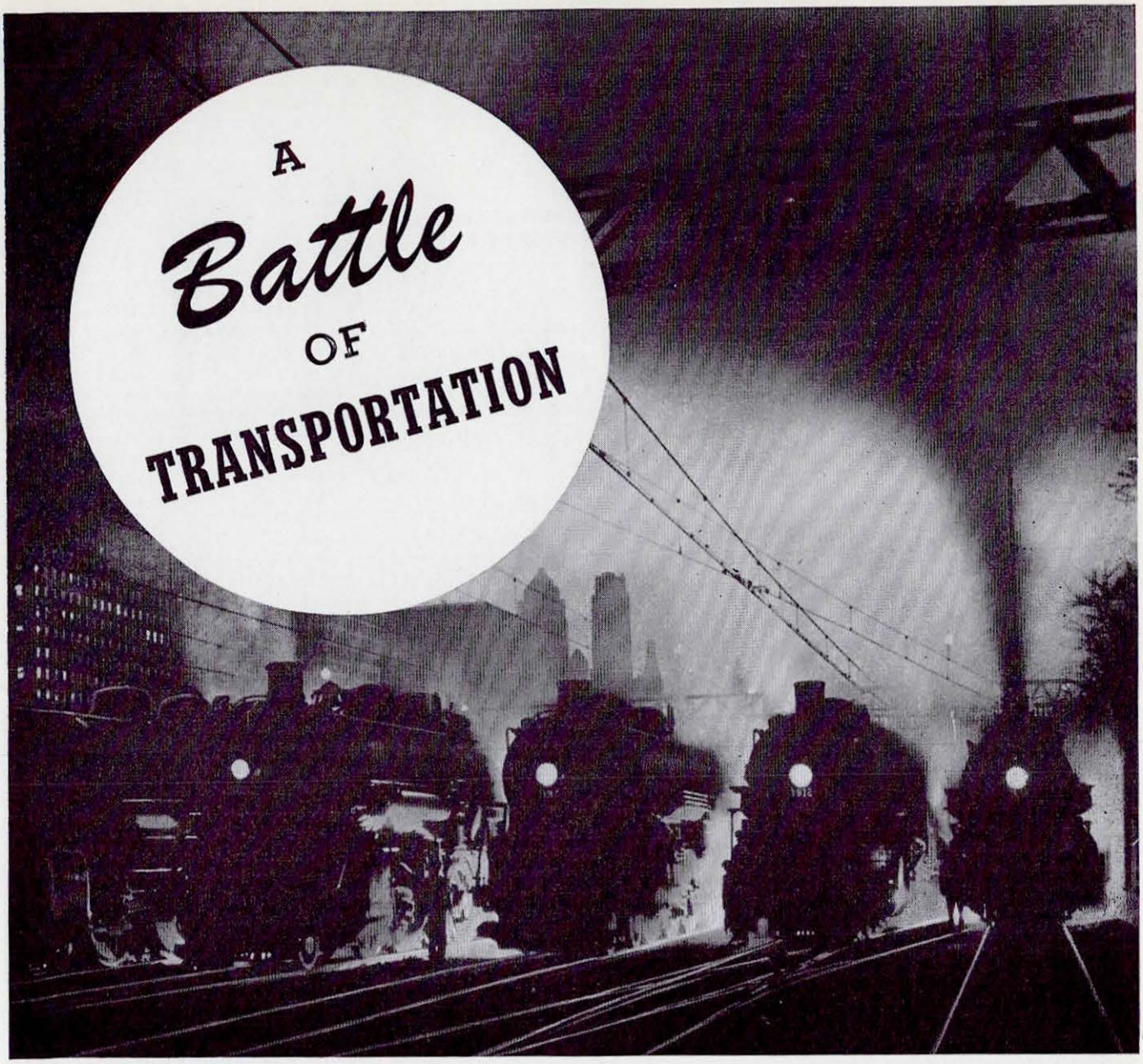
Up to November 16, according to information made available through ODT, 18 projects had been put before Mr. Jewell for review where the WPB requisition already had been served on the lines concerned. In these cases the process of requisitioning had been started by the WPB under the procedure in effect before the new plan was adopted. The ODT, however, acts on these cases in much the same way as it will act on others later submitted to it; that is, after the examiner's recommendation is made public a period of two weeks will be allowed for interested persons to comment on or protest his findings before final certification is made by the ODT.

Several projects included in this group of 18 have been studied by the ODT examiner, and his recommendations have been made public in the form of reports to Mr. Eastman. The first report, issued November 10, recommended that the ODT should certify to the WPB that the line of the St. Joseph, South Bend & Southern (a New York Central subsidiary) between Baroda, Mich., and South Bend, Ind., 25.04 miles, is not essential to the war transportation effort. Interested persons are requested to submit comments or criticisms upon the report to Examiner Jewell before November 30.

Another report was issued November 12, recommending that the ODT certify as non-essential certain segments of two branch lines of the Atchison, Topeka & Santa Fe, namely, a line from Benedict Junction, Kans., to Madison Junction, about 40 miles, and a line from a point some 3 miles south of Eureka, Kans., to Moline, about 34 miles. Another section of these connecting branch lines, extending from a point about 3 miles south of Eureka, Kans., through Madison Junction to Emporia, approximately 49 miles, was requisitioned by the WPB at the same time, but the examiner's report recommends that the ODT certify that this segment is essential to the war transportation effort.

Another line requisitioned by the WPB, that of the Union Pacific between Vale,

News Department continued on next left-hand page



Our railroads are meeting the demands of the Government, shippers and traveling public . . . for frequent, fast and dependable transportation.

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Ore., and Brogan, 23.7 miles (owned by the Oregon-Washington Railroad & Navigation), also was found to be essential by the ODT examiner in his report of November 13. Two lines of the Illinois Terminal about which there has been considerable controversy before the Interstate Commerce Commission and in the courts, namely, that from Decatur, Ill., to Danville, and that from Decatur, Ill., to Mackinaw, a total of about 130 miles, the examiner found non-essential, and his recommendation has the effect of approving the WPB requisition in this case. He also proposed that the 15.84-mile line of the Murfreesboro-Nashville, between Murfreesboro, Ark., and Nashville, be certified as non-essential. In his report on the Illinois lines Mr. Jewell pointed out that their abandonment would release about 18,700 tons of ferrous metal for use elsewhere, including 16,000 tons of rail, nearly all of which is suitable for relaying, as well as some 1,300,000 pounds of copper.

It is expected that reports on the other projects included in the group of 18 already requisitioned by the WPB will soon follow these initial recommendations. On November 17 the ODT announced that it had received from the WPB requests for certification as to whether 37 additional projects are essential for the war transportation effort. These requests are preliminary to the actual requisition. Each case will be studied by Mr. Jewell, and after his report is made public an interval of two weeks to allow comments and protests to be filed will elapse before certification. The projects included are listed below:

Railroad	From	To	Approx. Mileage
Fla. East Coast	San Mateo Jct.	San Mateo, Fla.	2.8
Saratoga-Encampment Valley (U.P.)	Walcott	Encampment, Wyo.	44.02
Ill. Central	Stacyville Jct.	Stacyville, Iowa	7.85
Boston & Maine	Farmington	Alton, N. H.	9.
Southern	Camden	Kingville, S. C.	38.71
Boston & Maine	Bedford	Concord, Mass.	4.
Chicago, Rock Island & Pacific	Deshler	Ruskin, Neb.	8.06
Baltimore and Ohio	near Southwood, Del.	point near Landenberg, Penna.	3.
Illinois Central	Potomac, Ill.	Hedrick, Ind.	16.27
Chicago, Rock Island & Pacific	Lawton	Grandfield, Okla.	33.96
Chicago, Burlington & Quincy	Moulton	Sedan, Iowa	18.97
Texas & Pacific	Ville Platte	Eunice, La.	15.
Pere Marquette	North Greenville	Howard City, Mich.	17.64
Union Pacific	Barnesville	Briggsdale, Col.	13.42
Union Pacific	Galeton	Purcell, Col.	8.85
Chicago, Rock Island & Pacific	Avaco	Carson, Iowa	17.73
A. T. & S. F.	Moriarty	Stanley, N. M.	11.60
Boston & Maine	Hamilton	Essex, Mass.	5.5
Chicago, Burlington & Quincy	Alma	Huntley, Neb.	9.77
Black Mountain	{ Kona	Burnsville }	13.906
Black Mountain	{ Micaville	Bowditch, N. C. {	
Paris & Mt. Pleasant	Paris	Mt. Pleasant, Tex.	50.9
Chicago, Rock Island & Pacific	Stockton	Tipton, Iowa	8.
Wilmington, Brunswick & Southern	Southport	Navasso, N. C.	30.
Norfolk & Western	Honaker	Blackford, Va.	
Norfolk & Western	Abbeville, Va.	W. Jefferson, N. C.	55.
Chicago Great Western	Belle Chester	Belle Chester Jct., Minn.	5.6
Western Maryland	Dailey and Steiner	Huttonsville, W. Va.	7.58
Denver and Rio Grande Western	Ridgeway	Ouray, Col.	11.49
Penna.-Reading Seashore Line	Riddleton "B" Street, near	Daretown, N. J.	
Northwestern Pacific	San Rafael	Fairfax, Calif.	3.876
Chicago, Mil. & St. Paul	Otis	Doering, Wisc.	16.8
Chicago & North Western	Belle Plaine	What Cheer, Iowa	37.692
Wabash	Helmar	Stroh, Ind.	4.83
Wabash	Bement	Sullivan, Ill.	23.16
Chicago & North Western	Eland	Rosholt, Wisc.	19.002
Northern Pacific	Harrison	Pony, Mont.	6.25
Central Vermont	Barre Jct.	So. Barre, Vt.	3.48
Chesapeake & Ohio	Eagle Mountain	Newcastle, Va.	26.41

Rock Island Scrap

Ten million pounds of scrap was picked up by officers and employees of the Rock Island System on their Scrap for Victory Day, October 31, when only the necessary work of keeping the railroad running was allowed to interrupt the special scrap collection effort. By nightfall, every employee in the 14 states in which the railroad operates had turned in an average of 400 lb. of scrap metal. The metal was shipped to and sorted at the railroad's salvage terminal at Silvis, Ill.

OPA Defines "General Increase" and Form of 30 Days' Notice

Official definition of the term "general rate increase" and a detailed outline of the procedure to be followed by common carriers and public utilities in complying with the provisions of the amended Emergency Price Control Act of October 2, requiring 30 days' notice of such increases, are contained in Procedural Regulation No. 11, issued by the Office of Price Administration November 12.

The requirements of the law affecting railroad rate procedure were outlined in *Railway Age* of October 10, page 573. The new OPA regulation is intended to clarify its provisions and set up routine practices to be followed in complying with the law when applications are made for I. C. C. authority for tariff changes.

The OPA regulation defines a general rate increase by a common carrier as "any change in its rates, fares, classifications, rules, regulations or practices which results in an increase in charges for transportation . . . applicable to a class of passengers, shippers or customers." The only type of increase excepted from the provisions of the order putting the law into effect is stated to be "an increase of rates or charges applicable to a particular customer or transportation service under special arrangement."

To comply with the provision of the law requiring notice of proposed rate increases, the regulation requires that two copies of such notice must be received in the Washington, D. C., office of the OPA Transportation and Utilities Division at least 30 days before it is to become effective, and that the Price Administrator must be notified when authority to make rate increases is sought from any regulatory agency in ample time for him to intervene in the proceedings. Each such notice filed with the OPA must include a statement that the applicant consents to this intervention.

Additional requirements are prescribed for increases of relatively broad effect, specifically including any increase applying generally within or between recognized rate territories, any that applies to or from a number of points, any that involves proportional or competitive rates applying to or from a number of points, and any increase in a rate that applies to a substantial proportion of a carrier's business.

Whenever increases included in these specified classes are involved, additional information filed with the required notice is expected to include a statement of the existing and proposed rates, commodities affected, minimum weights, and points involved, except that where a large number of rates are involved it is permissible to file typical examples. Also the supplementary information should include reference to any orders of regulatory authorities that may be applicable, a statement of reasons why the increase is proposed, and other supporting data, such as estimates of the volume of traffic affected or comparisons with other substantially equivalent rates or services.

Lea Tribute to Eastman

When the record of the part the United States has played in the war is written, "a proud chapter will deal with the achievement of the railroads, and part of that chapter will be the co-operation of the Office of Defense Transportation," said Chairman Clarence F. Lea of the House committee on interstate and foreign commerce in an extension-of-remarks appearing in the appendix to the November 11 Congressional Record. While Mr. Lea highlighted railroad performance in handling the record wartime traffic with limited equipment, his remarks were in the main a tribute to ODT Director Eastman.

"From the beginning," he said, "Director Eastman's whole attitude has indicated that he is one of the few in public life, regulating a private industry, who is making every effort to keep up the morale of that industry to have pride in itself, to run itself, and to inspire the friendly confidence of the agencies he regulates." Mr. Lea also characterized the ODT director as one who has the disposition "to withstand the pressure of the extremists within and without, and the courage to assist the railroads in their job, notwithstanding the pressure from many directions to do otherwise, to regulate and to penalize."

"The railroads are meeting the emergency," he went on, "because of the excellence of their management, their preparation for the emergency, and also because the Director of the Office of Defense Transportation has shown a rare degree

News Department continued on next left-hand page

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Individual action is faster, serial transmission quicker. Rapid and precise control of braking pressure is obtainable with any size or arrangement of cylinders — the type D-22 Control Valve acts as a piloting mechanism to actuate large capacity Relay Valves. This operating sequence compensates for varying piston travel and normal leakage. Truck mounting of cylinders is facilitated . . . Consistently accurate performance of the entire equipment over long periods is assured by superior construction of coordinated elements.

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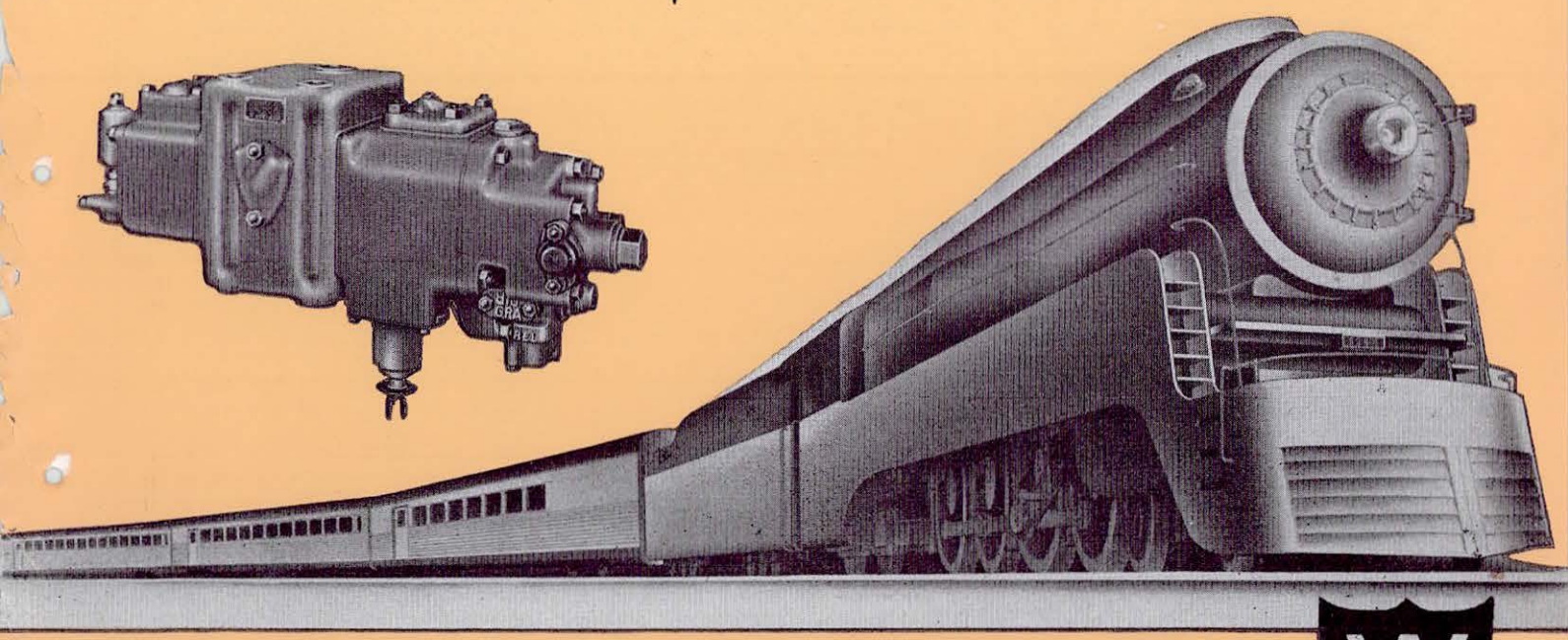

WESTINGHOUSE AIR BRAKE CO.

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of tact and co-operation in dealing with the competitive units of the transportation industry and co-ordinating the various branches, so that each shall make its greatest contribution without interference with the other, and so that the strain of one —if it develops—does not disturb the other."

As Mr. Lea sees the situation, the country has received "great benefits" from the work of Mr. Eastman. He attributes such results to "the ability, the experience, and the fairness" of the ODT director, rather than to "the mere policy of having a Director of Transportation."

Getting Potato-Car Stoves Back to Maine

Because current efforts to avoid cross-haul of refrigerator cars contemplate that some cars loaded with Maine potatoes may not be returned to that state, the Car Service Division has advised railroads that plans must be made for the recovery and return of stoves used in such cars. In the past cars so equipped have been boarded or provision otherwise made for their return to Maine.

This year, the circular signed by Car Service Division Chairman W. C. Kendall says, the Maine car supply will be protected by refrigerator cars released in New England, together with such supplemental supply as may be released in other territory. Cars loaded from Maine destined to points west of the Hudson river "may not in all cases return to Maine." Thus the necessity for arrangements to return the stoves, which, Mr. Kendall points out, are primarily the responsibility of the shippers, consignees, and the Eastman Car Company, owner of the stoves. Nevertheless, he asks the railroads to instruct their agents to co-operate.

No Wholesale Rate Probe Under Way, Biddle Says

While the grand jury investigation in Chicago of the rate making practices and agencies of common carriers continued regular sessions, an announcement November 12 by Attorney General Biddle in Washington indicated that the extent and significance of this activity of the government's anti-trust lawyers will be less far-reaching than many observers feared when the proceedings began.

"There appears to be some misapprehension on the part of the general public as well as the carriers," said Mr. Biddle, "concerning the scope and objectives of the grand jury investigations into rate bureaus, rate conferences and similar common carrier organizations recently instituted by the anti-trust division of the Department of Justice.

"In order to dispel whatever misconceptions may exist, I should like to state simply that no investigation into or disturbance of the existing normal and established activities of carrier rate bureaus and conferences is contemplated by the department. I feel that any such program at this time would unduly diffuse the activities and energy of the carriers and hence unnecessarily burden them at a time when they are engaged in the difficult and complex job of aiding the government in the prosecution of the war.

"There have been brought to the attention of the department, however, a few flagrant abuses of the joint method of rate initiation which involve coercive practices such as intimidation, fomenting of strikes, and boycotts. Such activities are unjustified under any circumstances, and their elimination by civil or criminal processes will benefit the public and the carriers alike. The Department of Justice, therefore, will prosecute cases involving such disregard of the rights and interests of others by resort to such flagrant conduct.

"The Department of Justice will continue to work in close harmony with other government agencies concerned with wartime transportation, and intends to institute no proceedings against carriers or bureaus which will impede or obstruct the war effort."

N. Y.'s Wartime Transportation Subject of Business Forum

A "business forum," consisting of a series of weekly broadcasts over Radio Station WMCA, was inaugurated on November 13 by the Commerce and Industry Association of New York. The opening broadcast, dealing with the subject of New York's wartime transportation, had as its speakers Commissioner John L. Rogers, assistant director of the Office of Defense Transportation; F. E. Williamson, president of the New York Central; L. O. Head, president of the Railway Express Agency, Inc., and Ted V. Rodgers, president of the American Trucking Associations, Inc.

After emphasizing the fact that the shortage of new equipment due to the conversion of virtually all of the nation's productive facilities to the war effort was becoming increasingly serious, Commissioner Rogers went on to say that "we must see to it, first, that existing equipment is given the best possible care and, second, that every unnecessary vehicle-mile and all unnecessary travel is eliminated." To attain the ODT's objectives, Mr. Rogers said, they must have the active co-operation of every one who uses, controls or services the nation's transportation facilities.

Mr. Williamson said that within the U. S. the major part of the transportation job is, and must be, done by the railroads. He added that railroad men are determined that the war task will be performed and that transportation for the civilian needs will be met to the utmost limit of equipment available to do the job. Mr. Head expressed his opinion that more than one-half the express business today had a definite relationship to the war effort and that the percentage was rapidly rising.

As spokesman for the American Trucking Associations, Mr. Rodgers declared that the volume of freight now being moved by trucks and the railroads is the greatest in all history and that about 25 per cent of this freight was being carried by trucks. "Trucks and railroads have been vigorous competitors," he said. "Today it is not so much a question of who gets the freight, but who can handle it."

Eastern Oil Movement Picks Up

Tank car movement of petroleum and petroleum products into the Eastern states averaged 768,719 barrels per day during the week ended November 7, according to an announcement from Petroleum Coordinator Ickes. This was an increase of 15,125 barrels per day over the previous week. In a press conference November

Transportation Corps Gets Railway Activities of Engineers Corps

All Army activities connected with the operation and maintenance of railroads, which were formerly a function of the Corps of Engineers have been transferred to the Transportation Corps, Services of Supply, according to a November 16 announcement from the War Department. Included in the transfer is the Military Railway Service, headed by Brigadier General Carl R. Gray, Jr.

The Transportation Corps, headed by Major General Charles P. Gross, was created last August "to co-ordinate, direct, and speed the flow of men, equipment, and supplies into the war effort." Its new jurisdiction over the Military Railway Service will be complete, the November 16 announcement said, covering that Service's engineer headquarters and headquarters companies, all grand divisions, all operating and shop battalions, and all other units and reserve components.

"Many installations and large numbers of Army personnel," the announcement also said, "are involved in this move for the centralization of control over military transportation. All activities and installations pertaining to research, design, development, procurement, storage, and distribution of railway rolling stock for the War Department, which were formerly under the jurisdiction of the Corps of Engineers are included in the transfer." Meanwhile, however, new railway construction for the Army will continue to be the responsibility of the Corps of Engineers.

Among the military personnel affected are "all officers of the Corps of Engineers or other components of the Army whose primary assignments were in connection with the transferred activities." In addition to the personnel of the Military Railway Service, these include personnel of the Railway Branch, Troops Division, and the Railway Equipment Section, Procurement Branch, Supply Division, Office of Chief of Engineers. Civilian personnel engaged primarily in the transferred activities have also been placed under the jurisdiction of the Transportation Corps.

News Department continued on next left-hand page

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12 Mr. Ickes called attention to conditions that are preventing any consistent increase in rail movements of oil and gasoline to the rationed area, among others the great demand for such products created by military activities in North Africa, which must be supplied largely from East Coast ports, and the large number of bad order tank cars currently reported.

A reduction in the daily allotment of gasoline and fuel oil for civilian use in the Eastern states has been necessary, he added, in order to meet the military desmands, and a new appeal was put out for conversion of oil burning heating plants to use coal. Quoting figures attributed to J. J. Pelley, president of the Association of American Railroads, Mr. Ickes suggested that the present number of bad order tank cars, around 14 per cent of the total used in keeping oil moving to the East Coast, is likely to increase as the effects of age and high speed operation accumulate.

In his capacity as Solid Fuels Coordinator for War, Mr. Ickes announced that all-rail coal shipments into New England in the week ending November 7 totaled 6,088 cars, or approximately 334,840 tons, a decrease of 549 cars, but only about 8,195 tons, from the preceding week. The decrease was almost entirely in bituminous shipments, and was attributed largely to the effect of election day absences of mine production.

Coast RRs Proud of Scrap Record

(*Continued from page 854*)

placed. Metal thresholds, cast iron posts and much metal fence around stations were removed. This was done wholly with the thought of the national necessity and not with the thought of cost to the company. Removal of idle machines and idle facilities was studied thoroughly. A clean-up also was made of shops and maintenance of way buildings, tool houses, extra gang outfits, lockers, shop bench drawers and all material on line not in use was reviewed. Much rail was recovered by removing tracks which were no longer needed, such as spurs to stationary boilers which used coal but now use natural gas; also rail from drop pits located outside of shops and no longer used after pits were constructed inside.

Supply cars operating on regular schedules furnish the using departments of the railroad with materials to last them until the next trip, thus complying with the War Production Board's request to keep inventory of stocks down to the lowest operating need. Gasoline-operated magnet cranes are mounted on the supply cars to pick up materials of all kinds with the least effort.

M. J. Wise, assistant to the president, Southern Pacific, and chairman of the system salvage committee, reported that in the last nine months, all lines of the Southern Pacific sold or turned into industries approximately 132,000 tons of scrap, exclusive of relay rail. He described this as equal to approximately 2,700 carloads of 50 tons each, or 27 trains of 100 cars each, or three trains per month of 100 carloads each of 50 tons capacity. He said that he had never seen greater enthusiasm by the railroads than has been shown in the last six or eight months in salvaging scrap, but pointed out that discrimination must now be practiced as an acute shortage of labor exists, which makes it important to assure that every effort count by not spending time picking up a nickel's worth of scrap when the same effort could be engaged in picking up a dollar's worth.

T. L. Phillips, chief engineer of the Western Pacific, stated that the Western Pacific made a scrap drive in the latter part of 1939 and the early '40's to clean-up rail and abandoned tracks and obsolete cars and scrap in general and thought it was "about as clean as a hound's tooth." Following a scrap meeting held in San Francisco last July, however, a daylight trip by motor car was made over every mile of the line and disclosed old broken draw bars, pieces of culvert pipe and a wide variety of materials behind tool houses and along the edge of the right of way. Outfit cars were found spurred out, generally on four rails, and the order was given to take the trucks out from under those cars and recover the rails, put the car bodies on the ground or build houses to take their place. In many places pieces of one, two and three inch water pipe and old pieces of cable with shackles attached were found buried, often a hundred feet from the track where they would not have been detected without a search for them. He stated that an astonishing amount of scrap and usable rail was recovered for the length of the railroad.

The Northwestern Pacific, according to C. A. Veale, vice-president and general manager, found as much scrap per mile as any of the larger railroads. Although the railroad's freight traffic has approximately doubled, increasing from 44-million ton-miles in August, 1939 to 81-million ton miles in August, 1942, the company has not required all the facilities which were once provided for passenger service and has taken up or is in the process of removing many sidings, spurs or other pieces of rail for which there is no immediate use. A total of 174,000 lin. ft. of rail and over 3,000 tons of scrap iron were released during the first seven months of this year. In one case, three box car bodies which had once been used for dining facilities were found on trucks on rails, the age of which is indicated by the fact that the brake beams on the cars were of wood.

B. C. Bertram stated that the need for scrap continues and cautioned railroads not to let anybody tell them anything different, adding that what some people have referred to as mountains of scrap in public parks is not a "drop in the bucket" of needs. "We got the scrap for Japan," he said, "and now must get it for Uncle Sam." He regretted that authoritative information about the amount of scrap being collected and released by railroads is still lacking, despite the many reports which government agencies are receiving from railroads.

He estimated that the railroads are producing from one-half to three-quarter ton of iron and steel scrap per month per mile of track, and are contributing one-fifth of the purchased scrap in the country instead of one-sixth, as commonly reported. While the flow of scrap from railroads appears to be less than in previous years, railroads have also turned over to the government more than a million tons of relaying rail, about 60 to 75 per cent of which, he believed, would have been sold as scrap in normal years. Only about 10 per cent of the 10,000 track-miles of this rail, he said, was obtained by requisitioning procedure, which means that 90 per cent of the rail was produced voluntarily. The Division of Industry Operations of the War Production Board, he reported, has taken into account the grand job the railroads have done in collecting and releasing scrap and relay rail, and has been allocating more material to railroads than a few months ago, according to his information. As in previous meetings with railroad officers, he requested that any material which has not been used during the previous three months and which is not likely to be used in the next three or six months should be disposed of as scrap.

Jeffers Gives Labor A Friendly Warning

(*Continued from page 853*)

profligacy of the few at the other end of such diversified discussions," continued Jeffers. "I believe that one good that can come out of the war is a realignment of our viewpoints and our objectives.

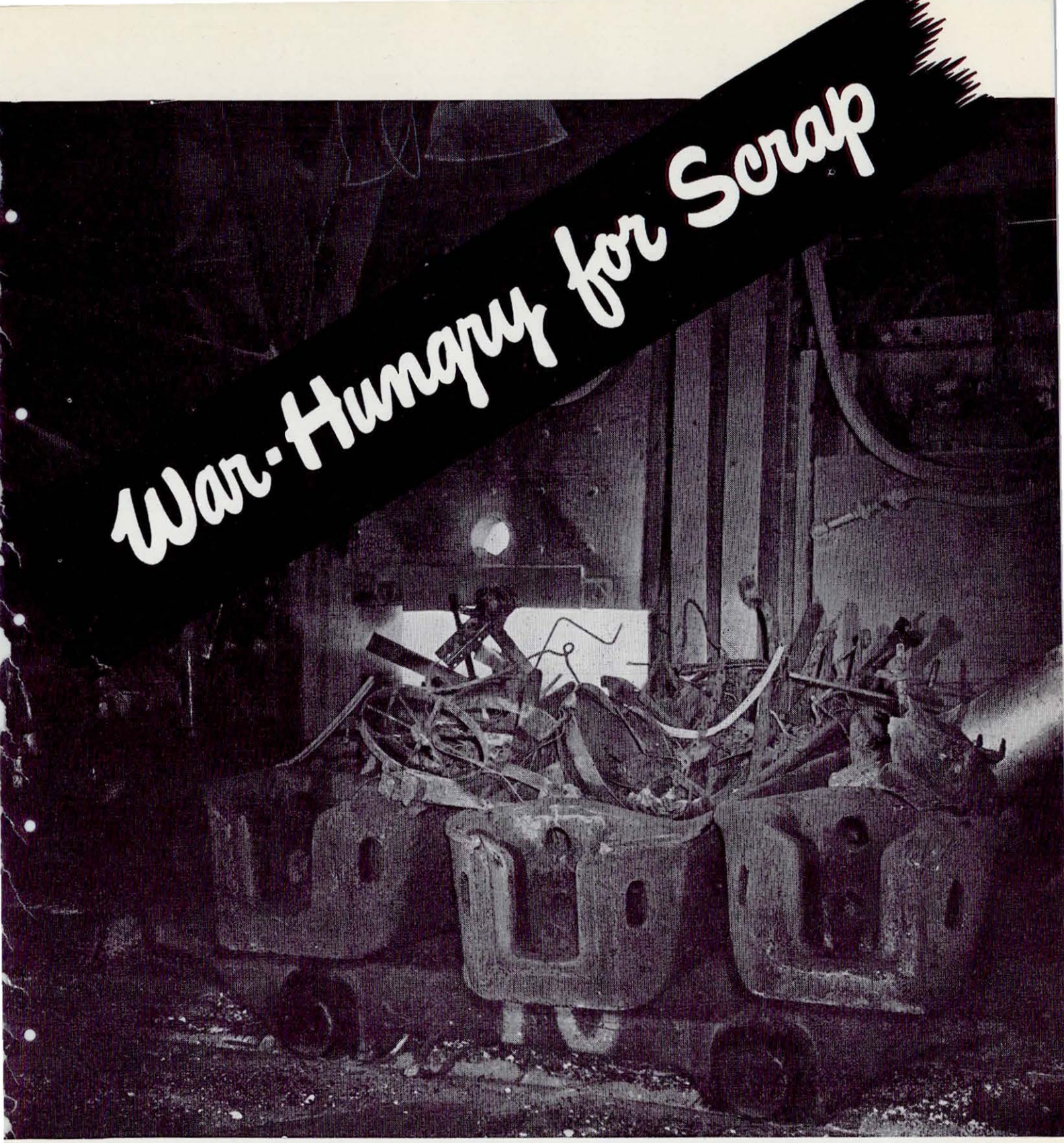
"Millions of people are being taught to work with their hands and their feet, as well as their minds—people who before could find no work because they knew no task. But in these days to come when we will have the victory I know will be ours, we will have these millions of men and women who will have learned how to work, how to think, how to produce, and from this production, with proper management, with honest recognition by each of the rights of the other, will come wealth in happiness, in dollars, in opportunity, in contentment."

Seeing in the war emergency the bringing closer together of employees and management in the common cause, the speaker warned that management must start thinking more about the men who must carry out the ideas and complete the guidance—and employees must think more kindly about the powers that plan.

Recalling when he was a child the "miracle" of transportation, Mr. Jeffers said it has seemed to be a part of the national philosophy to discard the conventional in favor of the sensational. He recalled that after the last war the railroads, which performed "a valiant service," were cast aside with "an economic abandon that could be true only in a young nation rushing through its adolescence."

"I ask you," said Jeffers, "where would this country be were it not for this system of railroads which we attempted to destroy? We could not win this war without these railroads which some in this country wanted to discard only a few years ago. It would be impossible to move the men to camp and to the front, to get

News Department continued on next left-hand page



Hungry steel mills don't win wars. It takes enormous tonnages of scrap to meet war production goals—140,000 tons of scrap must be collected every day. That's a lot of old boilers, obsolete machinery, abandoned water-towers, worn-out jigs, patterns and molds. If this scrap isn't obtained quickly, steel production will slow down and the whole war effort be imperiled. If you haven't made a start in the nation-wide salvage drive, get in the scrap today. Get out the "junk" that misses routine collections. Call the nearest junk dealer . . . he'll pay you for it and start your scrap on the way to war . . . and Victory. ALAN WOOD STEEL COMPANY, Conshohocken, Pa.

raw materials to the factories and finished products of war to the front, were it not for our great rail transportation systems."

"Never before in history," he continued to say, "have railroads performed so efficiently, so patriotically and under such almost unsurmountable difficulties. At the same time," he said, "never before has it been so difficult because of the Selective Service Act and competing war industries to hold together an organization competent to take on the load."

Mr. Jeffers also said that, second, perhaps, only to keeping the railroads operating, is the need for rubber throughout the nation—"Rubber for our armed forces and for our armies, rubber for the farmer so that he may bring his cops to markets and to shipping centers, rubber for trucks, for buses, for the war workers, rubber for the millions of automobiles upon the continued operation of which the civilian economics of the nation depends."

Special Order on 50-Ft. Box Cars Brought Up to Date

The Car Service Division of the Association of American Railroads has issued Supplement No. 8 to Special Car Order No. 42, canceling and superseding all previous issues and bringing up to date the order's requirements with respect to 50-ft. box cars for the handling of new government motor trucks.

The 50-ft. cars to which the order as now issued applies includes those with end doors 8 ft. 1 in. or wider; automobile device cars; and those with side doors not less than 14 ft. 6 in. wide. Among the reasons for the reissue was the desire "to emphasize the extreme urgency of absolute segregation of these cars for preferential government freight," said an accompanying circular from W. C. Kendall, Car Service Division chairman. Also, Mr. Kendall called for "strict enforcement of the provisions of the order in the handling of these cars when empty."

In the latter connection the order requires that when the cars are received loaded with new government trucks, they are to be returned empty to the loading road; and "this provision includes cars released on owner's rails or on direct connections of owners." If received under other circumstances, the cars involved "should be returned to owner promptly in accordance with Car Service Rules, loaded or empty, giving preference in loading" to freight requiring such cars.

New government trucks requiring the cars, the order states, "are being produced in such volume as to require utmost utility of the available car supply."

Mr. Kendall's circular asserted that the demand "has reached a point where serious lack of cars has existed at important loading points."

Materials and Prices

Following is a digest of orders and notices of interest to railroads, issued by the War Production Board and the Office of Price Administration since November 3.

Construction machinery—Limitation Order L-192, effective November 9, stopped the production for civilian use of certain types of equipment needed for the armed services. Schedule C lists equipment which will be manufactured only for use of the military. It includes graders, ditchers, dredgers, rollers, conveyors, derricks, concrete handling equipment of several types, mixers of various kinds and other important pieces of construction equipment. Schedule A comprises a list of various types of new machinery and equipment that may be bought, rented and sold by individual contractors and construction companies or other persons for their own account under an authorization by the Director General for Operations. Items which appear in both Schedule A and C may not be ordered, sold or delivered for civilian use, nor will an authorization be approved. The Director General, at any time on two weeks' written notice, may require the owner to sell, lease or use his Schedule A equipment as directed, if such equipment was purchased or procured in new condition after November 15. Schedule B contains a list of smaller, less critical units of equipment and machinery such as jack hammers, rock drills, paving breakers, pumps, carts, material handling machinery and numerous other items. Products in Schedule B are removed from the restrictions that apply to all other types of equipment and machinery—in the procedure for placing and receiving orders and restrictions on resale, rental and use, many of which may be classified as off-the-shelf equipment. When a company or person other than a contractor or agent acting for the armed services or other government procurement desires to place an order for new equipment listed in Schedule A, the prospective buyer must first obtain authorization from the Director General for Operations through a Regional office, using application Form PD-556. Producers are forbidden to accept such an order unless accompanied by the required authorization. New machinery and equipment in Schedule A, when in the hands of any private owner, may be used only on the project described in the authorization to purchase, which would be obtained through filing of an application on Form PD-556. The new order supersedes L-82 and L-82-a and cancels all releases of equipment granted under the two previous orders on which shipment is not made before November 15.

Freight cars—All car builders were requested in a letter from Andrew Stevenson, Transportation Branch Chief, announced November 7, to restrict production of freight cars for general service, under Limitation Order L-97-a, to 50-ton composite gondolas, 41 ft.—6 in. inside; 50-ton composite gondolas, 41 ft. inside with 16 steel drop doors and steel fixed ends; and to 70-ton composite gondolas, 52 ft.—6 in. inside with low side and steel drop ends. Hopper cars were limited to 50-ton composite hoppers, 33 ft. inside; and 70-ton composite hoppers, 40 ft.—8 in. inside. Flat cars were limited to 50-ton flat cars, 53 ft.—6 in.; and 70-ton flat cars, 53 ft.—6 in. Designs for composite type box cars are under consideration and will be announced within the near future.

Industry branches—Industry branches of WPB, including the Transportation Equipment Branch, were advanced to the status of divisions in a reorganization announced November 11, and will be given greater responsibilities for estimating requirements, expanding resources and controlling distribution of materials. At the same time, they will be tied in more closely to the work of the WPB Requirements Committee. Each of the 36 Industry Division directors will have a labor advisory committee, an industry advisory committee and a sub-requirements committee, consisting of representatives of the seven governmental agencies established under the Controlled Materials Plan. Members of the latter group will act as spokesmen for the Army, Navy, Maritime Commission and the Office of Civilian Supply. The Resources Agencies will handle scrap and salvage programs, simplification and substitution, redistribution of materials and equipment, requisitioning, concentration of industry, stock piling and transportation, resources protection and programs for increasing production and better use of manpower resources. The three Controlled Materials Divisions—Steel (including the former Iron and Steel and Ferro-Alloys branches), Copper and Aluminum-Magnesium—will report directly to the Director General. The Rubber Division will report to Rubber Director William Jeffers. The other industry divisions have been grouped under five operating bureaus. The Construction and Utilities Bureau includes the Transportation Equipment Division.

Passenger automobiles—Passenger automobiles which are leased or rented for periods of more than seven consecutive days will not be required to carry Certificates of War Necessity, the Office of Defense Transportation announced on November 13. Such vehicles were exempted from General Order ODT No. 21 in an exemption order, but must qualify for gasoline under the OPA's mileage rationing program for passenger cars in order to operate. Under the exemption order, lessees will not be required to obtain certificates for any vehicle hired, and lessors will be required to obtain certificates only for vehicles leased or rented for seven consecutive days or less. Also exempted from the Certificate of War Necessity order were other vehicles, including those operated from one place of storage to another; vehicles used in testing tires, fuels or equipment by governmental agencies or by tire manufacturers for testing tires; vehicles operated in the course of manufacture and testing; and vehicles operated to a place of storage following repossession or upon seizure by governmental authorities.

Priorities—A top priority rating of AA-1 was authorized November 11 by the Requirements Committee of WPB for essential repairs and maintenances and for productive facilities, utilities, housing and consumers' durable goods. Communication and transportation systems, including railroads and other services, will be assured of materials to keep them performing their essential functions, it was announced. Until the Controlled Materials Plan goes into full operation, the existing priorities system will be used to obtain the steel, copper and aluminum needed for such maintenance and repair. Under CMP, each agency will break down its material requirements three ways—into that needed for production, construction and facilities and maintenance and repair.

Prices

Fuel oil—Amendment No. 43 to Revised Price Schedule No. 88 (petroleum and petroleum products), effective November 17, set a ceiling of 74 cents a barrel for No. 6 fuel oil for all Texas Panhandle refineries. The action brings into line the maximum prices of two refineries in the area which had a 69-cent ceiling during the base period prior to October 15, 1941, while more than 75 per cent of the volume of No. 6 fuel in the area has had a ceiling of 74 cents. The action applies to bulk shipments in tank cars and tank transport. Railroads are the principal users of Panhandle No. 6 fuel oil. Refineries are located at Amarillo, Borger, Dumas, Pampa, Shamrock and Sunray, Texas.

Scrap—Amendment No. 1 to Supplementary Order No. 9, effective November 14, excludes 15 specific price schedules and regulations on scrap materials from the price adjustment procedure provided by Supplementary Order No. 9 and Procedural Regulation No. 6. Under Procedural Regulation No. 6 and Supplementary Order No. 9, any person who has entered into or is about to enter into a contract with the United States Government or its agencies, or has a sub-contract under a Government contract, can apply for adjustment of any maximum price that OPA has established, if he believes the ceiling price impedes or threatens production of a commodity or supply of a service essential to the war program. Amendment No. 1 excludes from the provisions of Supplementary Order No. 9 and from the scope of Procedural Regulation No. 6 the following: zinc, iron and steel, nickel, brass, copper, waste paper sold East of the Rocky Mountains, old rags, lead and rubber.

Sponges—Part 1428 of Maximum Price Regulation 267, issued November 12, reduced maximum prices of packers and distributors for sponges approximately 15 to 20 per cent from the individual seller's March ceilings by setting specific dollars-and-cents peak prices. Jobber and retailer ceilings for sponges will continue to reflect their highest March, 1942, prices under the General Maximum Price Regulation. Prices of better grades of sponges increased 50 to 75 per cent in the year preceding March, 1942, when they were frozen at their top levels for that month under the General Maximum Price Regulation. Less desirable grades advanced even more during the year prior to the general price freeze.

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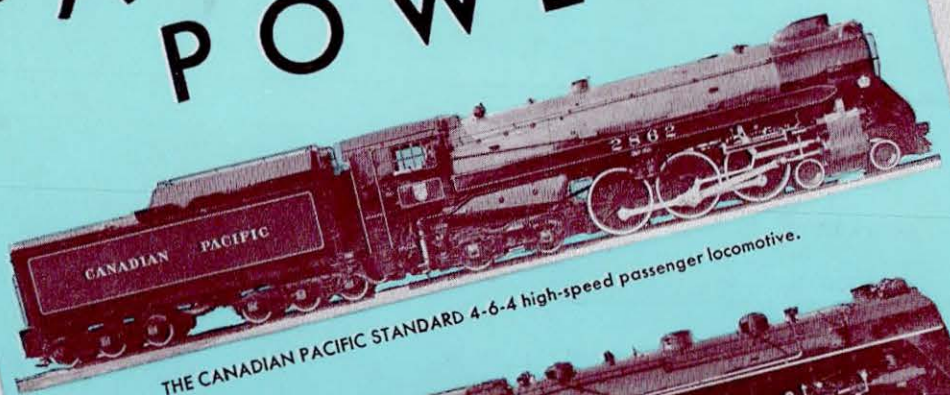
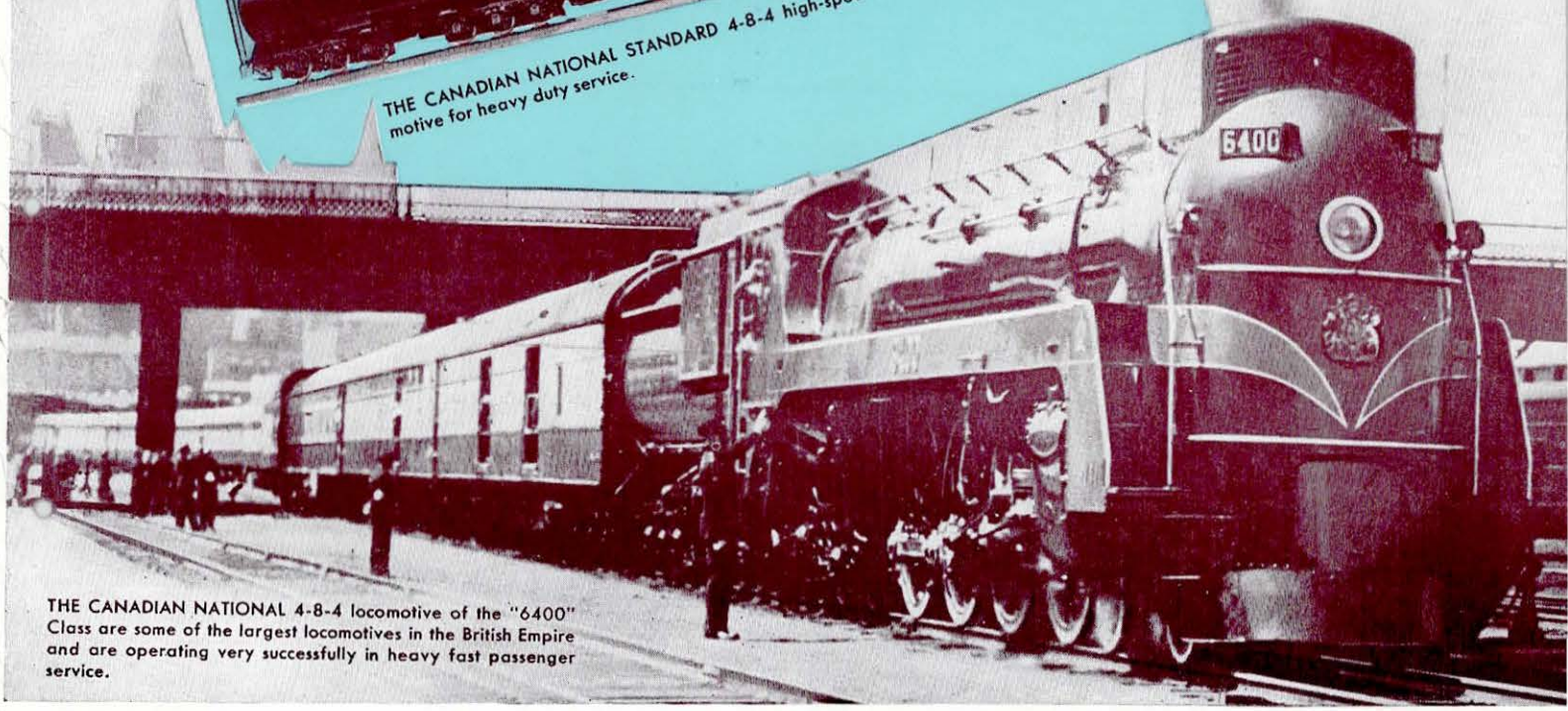
CANADIAN

HIGH-SPEED PASSENGER POWER



THE CANADIAN PACIFIC STANDARD 4-6-4 high-speed passenger locomotive.

THE CANADIAN NATIONAL STANDARD 4-8-4 high-speed passenger locomotive for heavy duty service.



THE CANADIAN NATIONAL 4-8-4 locomotive of the "6400" Class are some of the largest locomotives in the British Empire and are operating very successfully in heavy fast passenger service.

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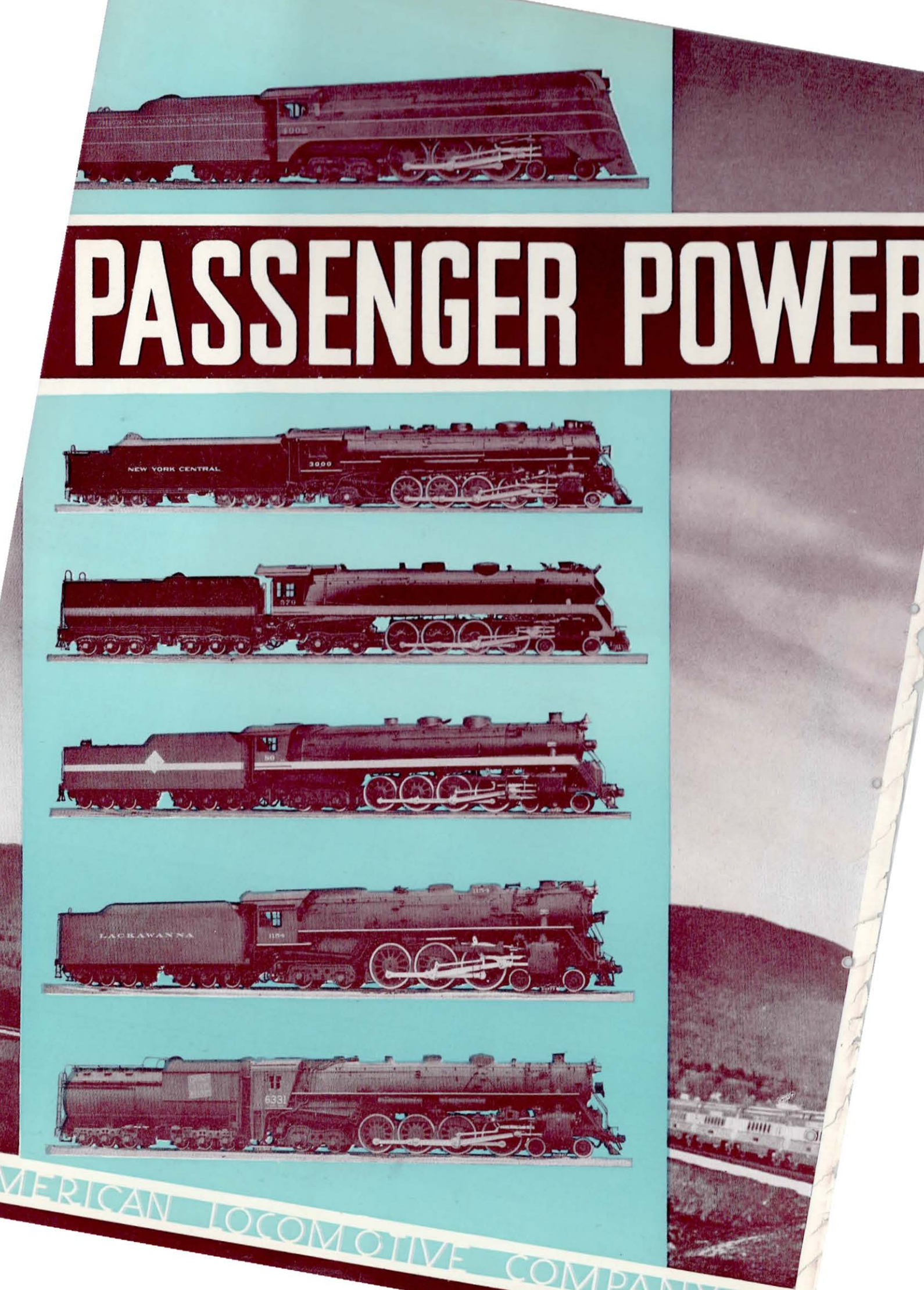
PASSENGER POWER
NEW YORK CENTRAL
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LACKAWANNA
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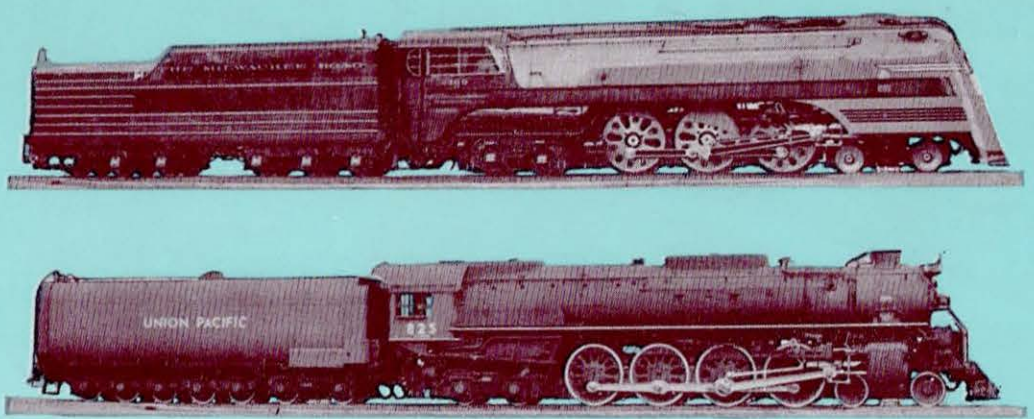
MERICAN LOCOMOTIVE COMPANY

...with Speed and Dependability ...VITAL TO THE WAR EFFO



Right now the railroads are handling the heaviest passenger traffic on record—up 65 per cent in June over the like month last year. Powerful steam locomotives of proven design are in large measure responsible for this excellent showing. Dependable modern steam locomotives Keep 'em Rolling.

Alco

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POWERFUL LOCOMOTIVES

FOR FAST FREIGHT SERVICE

Not only railway passenger, but freight service too, is making history in aiding the war effort. And here again modern steam locomotives of proven design Keep 'em Rolling.

AMERICAN LOCOMOTIVE COMPANY
30 CHURCH STREET · NEW YORK · N.Y.

GENERAL NEWS

Pelley Sees Roads Over the '42 Hump

But warns of coming trouble unless adequate supply of materials is allotted

The railroads have successfully met the unprecedented freight traffic demands placed on them this year by the war and current commercial needs. All traffic records have been broken. They are now over the hump for 1942—but they still have to face the heavy passenger traffic which will develop over the holidays and the still bigger job of handling the growing war production of 1943. Such was the statement of J. J. Pelley, president of the Association of American Railroads, following the member roads' meeting in Chicago November 17.

"Some temporary stringencies in certain types of equipment have occurred this year but there has been no interference with the war effort because of inability of shippers to obtain cars." Mr. Pelley went on to say, "The railroads have exercised all possible supervision in the use of these particular types of cars so as to obtain maximum utilization and efficient use out of them. Complete reports for 1942, when they become available later, will show improvements in operating efficiency never before attained.

"Expectations are that traffic will be much higher in 1943 than this year. If this develops and the railroads are to continue to furnish adequate transportation to move the great amount of materials and supplies needed by our armed forces as well as meet demands of industry, additional cars and locomotives must be obtained. There also must be allocated materials for maintenance purposes so that equipment can be kept moving.

"Freight traffic in 1942 has been the greatest for any year on record. It will amount to approximately 630 billion ton-miles, compared with 475 billion in 1941, or an increase of 32.6 per cent. Contrasted with this increase in ton-miles, carloadings will be only about 2 per cent above 1941.

"Changes in traffic movement brought about by diversion to the railroads of freight formerly handled by water, coastwise and intercoastal, which involves long hauls, coupled with an increased volume of long-haul lend-lease traffic, have thrown a load on the carriers. In the past, the railroads have kept pace with increasing traffic demands by adding conservative amounts of new cars and locomotives to their plant. In the first nine months of this year, the railroads placed in service 56,000 new cars. This is considerably fewer than would have been built had not the railroads and car builders been confronted with a demand for materials needed for other war purposes, causing the government to restrict the amount of material, principally steel, which could be allocated for the use of rail transportation. The supply of freight cars, particularly those of special types, and open tops such as flat, gondola and hopper cars, has been for some time barely adequate to take care of traffic demands.

"A new high record for average tons per car for all carload traffic is being established this year. This average has been increasing for the past four years and in 1941 was 38.2 tons. The average for the first half of 1942 was 39.2 tons, an increase of one ton above the preceding year. The average movement per car per day also will establish a new record and exceed that for 1920 by about 80 per cent.

"The annual grain movement was handled this year without any congestion of transportation.

"Iron ore tonnage handled on the Great Lakes in the 1942 season was greater than ever before.

"Export traffic continues to flow through the ports without congestion. In recent months, the amount passing through North Atlantic ports has approximated, and in some months exceeded, that handled at the peak of World War I movement. The volume through the Pacific ports has sharply increased to 30 per cent of the total handled through all ports, compared with seven per cent in 1941.

Accounting Order

The Interstate Commerce Commission, Division 1, has further postponed until January 1, 1944, the effective date of its orders prescribing operating-revenue account 117, Protective Service—Perishable Freight.

Club Meetings

The Canadian Railway Club will hold its next meeting on December 14 at 8 p. m. at the Windsor Hotel, Montreal, Que. Harold J. Roast, vice-president of the Canadian Bronze Co., will address the meeting on the subject of "Metals and the War."

The Toronto Railway Club will meet at the Royal York Hotel, Toronto, Ont., on November 23 at 7:45 p. m. An address entitled "Featuring the Car Department" will be presented by A. Lachance, supervisor of car equipment, C. P. R.

The New England Railroad Club will hold its next meeting on December 8, beginning with a dinner at 6:30 p. m., at the Hotel Touraine, Boston, Mass. C. B. Smith, engineer of tests of the Boston & Maine, will present a paper entitled "Hot Boxes," illustrated with lantern slides.

Many Name Trains To Be Decelerated

New York-Chicago fastest runs to be 18 hrs.—Slower time on trains to coast

Both Eastern and Western railways have announced material lengthening of schedules of some famous trains—including the "Broadway" and "Century" between Chicago and New York and several well-known limiteds serving the Pacific Coast, among them the "Golden State" and the "Sunset."

The Pennsylvania's "Broadway Limited," which now operates on a 16-hr. schedule between New York, Philadelphia and Chicago, will under the new time-table run on a 17-hr. schedule in both directions. The "General" and the all-coach "Trail Blazer," west and eastbound, will be lengthened from 17 hrs. to 18 hrs., as will also the running time of the "Pennsylvanian" which operates eastbound only. The westbound "Admiral" will become an 18-hr. train by the addition of 45 min. to its present running time of 17¼ hr.

Changes adding from 5 to 35 minutes to the present running time will also be made in the schedules of the "Pennsylvania Limited" to Chicago, the "Gotham Limited" and the "New Yorker" from Chicago; the all-coach "Jeffersonian" and the "Spirit of St. Louis" to and from St. Louis; the "St. Louisan," now operating westbound only, the eastbound "American" from St. Louis; the westbound "Cincinnati Limited"; the "Red Arrow" to and from Detroit; the Cleveland connection from the "Golden Arrow," westbound; and the "Clevelander," eastbound, from Cleveland.

Train No. 42, Chicago to New York, now carrying only coaches, will carry sleeping cars as well on a schedule of 18 hrs. 10 min. The evening departure from St. Louis to the east will continue to leave as at present, with 30 min. added to the present schedule.

The New York Central's "20th Century Limited" will run on a 17-hr. schedule, in both directions, 1 hr. longer than formerly. Both the "Advance Commodore Vanderbilt" and the "Commodore Vanderbilt" have been put on an 18-hr. schedule, east and westbound, 1 hr. longer than at present. The "Ohio State Limited" has added 25 min. to its run to Cincinnati and the "Southwestern Limited" to St. Louis has lengthened its schedule 30 min. The "Pacemaker," a reserved-seat coach train, will have its run advanced 50 min., making the run to Chicago in 18 hrs. instead of 17 hrs. as heretofore. The "Advance Empire State Express" will leave 15 min. earlier than it does at the present time. The

News Department continued on next left-hand page

"Wolverine," the "Lake Shore Limited" and the "Cleveland Limited" have been advanced 5 min. each, to leave on the even hour or half hour.

From Boston to the West, schedules of the "New England States," the "Knickerbocker" and the "Southwestern Limited" will each be lengthened approximately 35 min. At the same time the above changes in passenger train schedules were announced, the New York Central and the Pennsylvania also advised that, effective December 6, the special service charge of $5 on the 20th Century and the Broadway Limiteds will be reduced to $3 and certain luxurious services will be discontinued.

The New Haven's new timetable, which became effective November 1, provides for some rearrangement of train schedules for more convenient handling of war-time traffic. In some instances the running time of trains has been lengthened two to 10 min. to provide additional time necessary at station stops for handling increased traffic. Service between New York, Hartford and Springfield has been rearranged to fill gaps between existing schedules and to eliminate several extra sections of regular trains formerly operated. Under the new arrangement, trains will operate direct to and from New York instead of connecting with Shore Line trains at New Haven. For the convenience of war workers in the Bridgeport, Conn., area whose shifts end at 3 p. m., a train has been scheduled to leave New Haven daily at 3 p. m., stopping at Bridgeport at 3:26 p. m., making intermediate stops to Mt. Vernon and arriving at Grand Central Terminal, New York, at 5:10 p. m. A train has also been scheduled to leave Grand Central around 5 a. m. to take workers to Bridgeport in time to get to their early-morning jobs.

The schedules of several passenger trains in Western territory were lengthened this week as an aid to our war effort. Members of the Western Association of Railway Executives at a meeting in Chicago on November 12 voted to leave to the individual roads decisions as to whether to lengthen their passenger schedules. Most members were opposed to any general slowing up of Western passenger trains, especially streamlined trains, contending that reduced speeds would make it impossible to use the equipment to the fullest advantage. It was decided, however, to add 15 min. to the running time of the streamlined trains operating between Chicago and the Twin Cities.

The Southern Pacific, effective November 22, will lengthen schedules on its Sunset route between New Orleans, La., and California. The schedule of the Sunset Limited between New Orleans and Los Angeles will be extended 3 hr. 25 min. westbound and 2 hr. 25 min. eastbound. The "Argonaut" schedule will be increased 3 hr. 15 min. westbound and 3 hr. 30 min. eastbound.

On the same date 3 hr. will be added to the westbound and 3¼ hr. to the eastbound schedule of the Golden State Limited operated by the Chicago, Rock Island & Pacific and the Southern Pacific, from Chicago to Los Angeles. The schedule of the "Californian," operated by these railroads between the same points, will be lengthened 3 hr. 20 min. westbound and 3 hr. 25 min. eastbound.

The Chicago, Burlington & Quincy is lengthening the eastbound schedule of its "Exposition Flyer" between Denver and Chicago by 1 hr. 25 min. This road also has under consideration the lengthening of schedules between St. Louis, Mo., and Kansas City and between Kansas City and Lincoln, Nebr.

One of the most serious problems facing the railroads this year has been the handling of passenger traffic because of increasing demands to meet military requirements. On the basis of present indications passenger traffic in 1942 is expected to be about 1¾ times that of last year and the greatest for any year on record, approximating 50 billion passenger-miles. The previous record was established in 1920 with 46,849,000,000 passenger-miles. Railroads handled 8,200,000 soldiers traveling under orders in organized groups, in the first ten months of 1942. About 40 per cent of the sleeping cars and 15 per cent of the coaches are being used for the movement of troops. This movement does not take into consideration the great number of individual service men who are traveling either under orders or on reduced furlough fares on regular passenger trains. Handling such an increase in travel, at a time when other war necessities have made it impossible for the railroads to get additional equipment, has created a serious operating problem.

"One reason for the successful handling by the railroads of the record freight traffic in 1942 has been the untiring cooperation of the shippers of this country. Through the Shippers Advisory Boards, and other shipper organizations, they have devoted their efforts to improving the efficiency with which freight cars are utilized by both shippers and receivers of freight. Car Efficiency Committees have now been organized in 518 communities throughout the country for the purpose of stimulating heavier loading, prompt loading, and unloading, and through cleaning of all cars before returning them to the carriers. Weekly reports on these committees indicate the shippers generally are cooperating wholeheartedly in speeding up the handling of cars while in their possession. These reports reveal a constant decrease in the number of cars held on industrial tracks beyond the free time awaiting unloading, and in the last six months the number of delayed cars, as reflected through these reports, decreased 16.4 per cent."

Suspends Oil-Rate Increase

The Interstate Commerce Commission has suspended from November 15 until June 15, 1943, railroad tariffs proposing increases in the emergency rates on petroleum and petroleum products from points in Central, Southern, Southeastern, and Western Trunk Line territories to Atlantic seaboard territory. The proceeding, is docketed as I. & S. No. 5162.

The tariffs proposed what the railroads called "moderate increases in the existing depressed rates on crude and fuel oil." Examples given in the commission's notice of suspension showed that it was proposed to increase the rate on crude oil from Port Arthur, Tex., to Baltimore, Md., from 47 cents per 100 lb. to 53 cents; while the rate on fuel oil would go up from 52 cents to 55 cents.

The adjustments are opposed by the Office of Price Administration, but the railroad answer to the OPA protest pointed out that the original agreement for a reduced basis of rates to handle the Eastern petroleum movement provided that the adjustment should be temporary in character. It also pointed out that the railroads are extending the present rates on gasoline and kerosene and illuminating and burning oil (except fuel oil).

Freight Car Loading

Carloading totals for the week ended November 14 were not available at the time this issue went to press.

As reported in last week's issue, loadings of revenue freight for the week ended November 7 totaled 829,490 cars, and the summary for that week, compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, November 7

District	1942	1941	1940
Eastern	149,783	180,280	162,159
Allegheny	173,357	182,552	163,468
Pocahontas	53,139	57,373	46,403
Southern	120,981	122,546	108,961
Northwestern ..	125,104	135,570	119,481
Central Western	134,382	135,838	122,410
Southwestern ..	72,744	59,423	55,436
Total Western Districts	332,230	330,831	297,327
Total All Roads	829,490	873,582	778,318
Commodities			
Grain and grain products	42,006	35,532	33,815
Live stock	20,765	18,766	16,576
Coal	163,193	164,577	135,083
Coke	14,270	13,425	11,817
Forest products	42,398	42,455	38,799
Ore	67,208	56,945	55,667
Merchandise l.c.l.	91,524	158,966	156,337
Miscellaneous ..	388,126	382,916	330,224
November 7....	829,490	873,582	778,318
October 31....	890,469	894,745	794,797
October 24....	903,246	913,605	837,657
October 17....	900,767	922,884	813,909
October 10....	909,957	903,877	811,906
Cumulative Total, 45 Weeks ...	37,577,715	36,694,338	31,432,631

In Canada.—Carloadings for the week ended November 7 totaled 68,974 compared with 71,882 for the previous week, according to the compilation of the Dominion Bureau of Statistics.

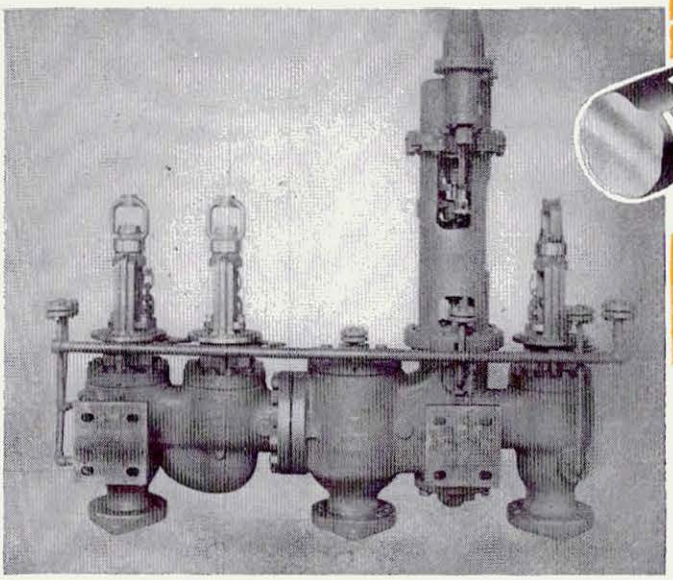
Total for Canada:	Total Cars Loaded	Total Cars Rec'd from Connections
November 7, 1942....	68,974	35,029
October 31, 1942.....	71,882	35,338
October 24, 1942.....	73,033	34,823
November 8, 1941....	69,572	32,616
Cumulative Totals for Canada:		
November 7, 1942....	2,917,216	1,524,035
November 8, 1941....	2,749,048	1,339,000
November 9, 1940....	2,415,922	1,107,536

Canadian Pacific Offers Two Free Scholarships

The Canadian Pacific has announced its 26th annual offer of two free scholarships in McGill University, starting with the 1943-44 term. The competition is open to young men and women employees under 21 years of age and to minor sons and daughters of employees who are eligible to enter McGill. The scholarships are in engineering, arts and science and agriculture

News Department continued on next left-hand page

For Victory Transportation



On the Ocean

Down in the engine room of many maritime commission vessels, which are delivering supplies to our forces abroad, will be found 6 inch maneuvering valves with the L.F.M. trade mark on the casings.

On the Railways

BY this time even a student in the grammar school is aware of the fact that adequate transportation facilities on land, sea and in the air are going to be one of the deciding factors of this war.

As the name implies, The Locomotive Finished Material Company is serving the railway industry but like every American plant we have enlisted for the duration. Our war time schedule includes vital machine tools, engine room specialties for Navy and Merchant Vessels as well as increased production for cars and locomotives.

Always big money savers, L.F.M. Light Weight Pistons and Combination Sectional Bull Ring Packing are today playing a big part in the conservation of fuel and materials.

The L.F.M. combination of bronze and iron sectional rings assures maximum mileage between renewals and steam tight performance.

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"Pioneers In The Development of the Light Weight Piston and Combination Sectional Packing."

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THE LOCOMOTIVE FINISHED MATERIAL CO.

ATCHISON, KANSAS

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LFM **LIGHT WEIGHT PISTONS** *and Combination Sectional* **BULL RING PACKING**

and guarantee tuition for from three to five years, depending on the course and the winner's matriculation standing.

The holder must earn full standing in the next higher year for annual renewal. Matriculation results and the candidates' school records form the basis on which the winners are chosen by the University Scholarships Committee, and July 1, 1943, is the final date for entries. Entries must contain a C. P. R. certificate of eligibility from the staff registrar at Windsor station, Montreal. For women only there is a 4 or 3 year course at Macdonald College in the school of household science.

Railroad YMCA Supervisor Now with United Seamen's Service

John Floyd McTyier, secretary of the transportation department of the National Council of the Y. M. C. A., who had administrative supervision over railroad "Ys" serving 50 railroads in the United States and Canada, has been appointed general business manager of the United Seamen's Service.

Co-ordinated Chicago-Florida Service Sought

Permission to establish co-ordinated Chicago-Florida passenger train service this winter similar to that employed last season is being asked of the Office of Defense Transportation by the Chicago & Eastern Illinois, the Illinois Central and the Pennsylvania. Under the plan which the railroads wish to place in effect on December 17, each railroad will operate a coach-Pullman train out of Chicago every third morning at 9:40 a. m., with arrival at Jacksonville, Florida, at 1:40 p. m. the next afternoon, and at Miami at 10.30 p. m. The schedule does not contemplate connections for west coast points.

Aitchison and Porter Reappointed to I. C. C.

President Roosevelt on November 16 sent to the Senate the nominations of Interstate Commerce Commission Chairman Clyde B. Aitchison and Commissioner Claude R. Porter for reappointment to new terms expiring December 31, 1949. Their present terms expire at the end of this year.

Chairman Aitchison has been a member of the commission since September, 1917, while Commissioner Porter's service began in January, 1928.

Railroads Asked To Specify Tank Car Damage

A circular letter from the A. A. R. Mechanical division calls attention to the need for repairing damaged tank cars and returning them to service as quickly as possible, pointing out that this objective will be greatly expedited if the railroads, when advising car owners of damaged cars, will state in their original wire or letter the extent of the damage.

The necessity for this action is explained as being due to the fact that the class of work performed in different car owners' shops varies, some shops performing heavy repairs and others having facilities to perform only light repairs. Also, many owners have arrangements with outside car repair companies to perform certain classes of repairs on their cars. Under these conditions, unless the notice of damage includes information as to its extent, the car owner is unable to furnish disposition. This entails additional unnecessary correspondence and avoidable delay.

Program for Wartime Utilization of Pullmans Completed

The program of the Pullman Company for maximum wartime utilization of all Pullman cars is virtually completed, according to David A. Crawford, president of Pullman, Inc., in his quarterly letter to stockholders. Every serviceable car, he said, is in active operation or is being converted into special-type troop car, while unserviceable equipment is being converted into scrap. The volume of sleeping car traffic, his letter stated, is surpassing all previous records, with troop movements and other government travel accounting for nearly half of the total business handled.

Deadline on "Necessity" Certificates Extended

The effective date of the Office of Defense Transportation's General Order No. 21, requiring operators of commercial motor vehicles to obtain a certificate of war necessity in order to continue legal operations, has been postponed from November 15 to December 1, ODT Director Eastman announced on November 12. The postponement was made, he said, in order to correlate the ODT program with the mileage rationing program of the Office of Price Administration, which has been postponed to become effective at the same time.

It was pointed out, however, that the extension of time does not relieve operators of trucks of the responsibility of submitting an application for a certificate well in advance of the deadline, as several days will be required to act on the applications and issue the certificates, and even more time will be required if applications must be returned because they are incompletely or incorrectly filled out.

Attention of truck operators was called to the OPA requirement that tires must be inspected between November 15 and January 15, and thereafter every 60 days or 5000 miles, whichever is completed first, which has not been affected by the postponement of the other regulations.

Armor Plant of American Steel Foundries Already Producing

Ceremonies marking the opening of the new cast armor steel foundry of the American Steel Foundries at East Chicago, Ind., were held on October 29. Addresses were made by Thomas Drever, president of the company, and Brigadier General Donald Armstrong, chief of the Army's tank automotive center at Detroit, Mich. The new plant, one of the largest steel foundries in the country, was built to meet the demands of the combat section of the Army Ordnance department for a large tonnage of cast armor for tanks. The project was a co-ordination of the engineering skill of the personnel of American Steel Foundries and agents of the Defense Plant Corporation which furnished the necessary funds of $26,500,000. In less than one year from the time when architects and engineers were instructed to prepare plans, a heat of cast armor steel was poured into molds.

The chronology of the erection of the plant is as follows: March 3, 1942, ground broken; April 29, erection of structural steel started; June to September, production buildings completed, mechanical and electrical equipment installed and production equipment installed in first unit of plant; September 10, erection of structural

Commemorating Opening of American Steel Foundries' New Armor Plant

Both Brigadier General Armstrong, Chief of the Army's Tank Automotive Center at Detroit, Mich., and Thomas Drever, President of the American Steel Foundries, Hailed the Company's New Steel Foundry at East Chicago, Ind., as a Vital Addition to the Arsenal of the United States. Front Row, left to right: R. D. Brizzolara, chief engineer of the company; Lt. Col. John Slezak of the Chicago Ordnance department; R. P. Lamont, retired president of the company; Mr. Drever, and Brig. Gen. Thomas S. Hammond. General Armstrong is speaking.

News Department continued on third right-hand page

To The Railroads For Efficiency In Handling A Record Volume Of War-Time Passenger Traffic–

An Everlasting Tribute

AMERICAN RAILROADS, faced with the greatest transportation responsibility in our nation's history, are doing a remarkable job in moving our armed forces, materials and supplies with maximum safety and dispatch. In the first six months of this year they have carried 5,250,000 fighting men in organized movements—more than were carried in the first fifteen months of World War I . . . And these record achievements have been accomplished with fewer passenger cars and fewer locomotives . . . This means that all available locomotives and cars, as well as all supporting equipment and facilities, are being used to the very limit of their capabilities, because *transportation* is vital to VICTORY and

VICTORY IS OUR BUSINESS

GENERAL MOTORS LOCOMOTIVES

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION LA GRANGE, ILLINOIS, U.S.A.

TRANSPO

IN WAR

THE railroads of America, faced with the greatest transportation problem in history, are doing a phenomenal job. Transportation enters every stage of production from the time raw materials leave the ground until the finished products reach their final destination. Without transportation, guns, tanks and planes would be useless, because they can't fight in our factories • • • We have reached the point where the volume of both passenger and freight traffic exceeds all previous records, with the result that the railroads have been called upon to use every available unit of motive power to the very maximum of its capabilities • • • Time is everything. Every minute — every hour — every day counts. Fighting men cannot wait. Delay in getting equipment and supplies to our fighting forces may mean the difference between victory and defeat. General Motors Diesel Road Locomotives on 27 railroads are doing their part in meeting this challenge. Transportation is vital to VICTORY and —

VICTORY IS OUR BUSINESS

GENERAL MOTORS
LOCOMOTIVES

RTATION

IN PEACE

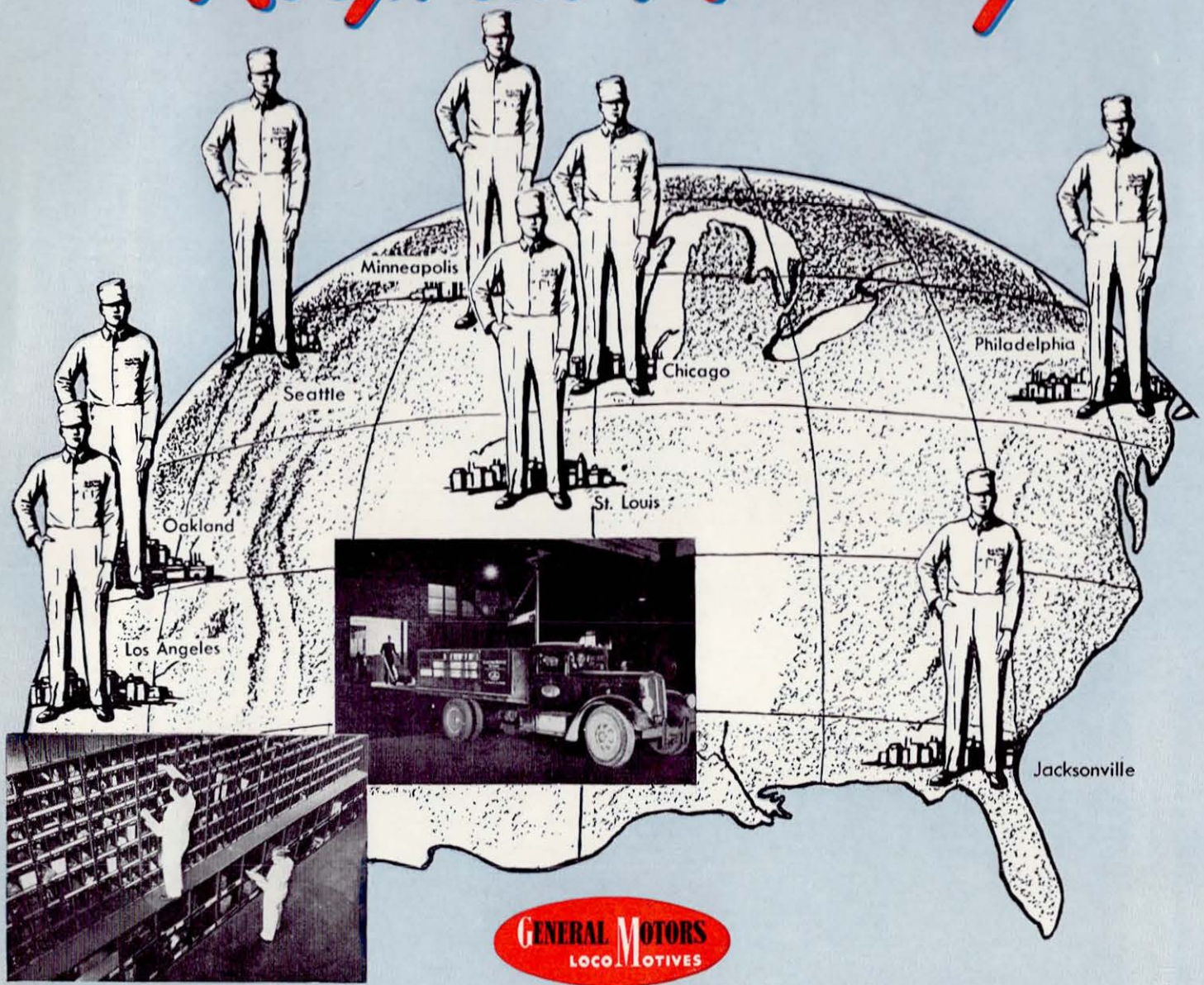
WHAT transportation problems peace will bring to the railroads, no one knows. But one thing is certain — the super-efficiency demonstrated during the war assures their ability to meet the new forms of competition and other conditions which they are bound to face after the war. Because of America's proven superiority in the building of planes and ships, it is reasonable to expect a public demand for more extensive improvements in rail equipment and service. The railroads are not going to relinquish their present leadership in passenger and freight transportation. They will carefully analyze the entire picture and plan accordingly. General Motors Diesel Road Locomotives will continue to make possible greater hauling capacity — faster schedules with maximum comfort and safety — high availability — less wear and tear on rail and bridge structures — lower operating costs — increased revenues.

WHO SERVES THE RAILROADS—SERVES AMERICA

GENERAL MOTORS
LOCOMOTIVES

GM SERVICE "WARDENS"

Keep 'em Rolling



GENERAL MOTORS LOCOMOTIVES

CONFIDENCE in a product and in those who make it results only from long satisfactory dealings and proved superiority of performance and service. Fundamental, of course, is the element of quality . . . In the present emergency, with passenger and freight traffic at an all-time high, all available locomotives have been pressed into service and are being used to the limit of their capabilities . . . General Motors Diesel Road Locomotives are playing a vital part in the nation's transportation network and everything possible is being done to keep these super-performers rolling with the highest degree of availability . . . GM Service "Wardens" and eight strategically located parts depots STAND GUARD day and night to protect this equipment. Every order for parts leaves the closest depot within the working day and normally no replacement part is more than 24 hours away from any piece of GM equipment now in service. This long established service policy insures receiving the right part — at the right place — at the right time — and strengthens our pledge to "Keep 'Em Rolling" for VICTORY because

VICTORY IS OUR BUSINESS

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION — LA GRANGE, ILLINOIS, U. S. A.

steel completed; September 16, open hearth furnaces lighted; September 23, first steam raised; September 28, foundry and core room in operation and cleaning and finishing department ready; October 1, steel made and poured; building complete within 80 per cent of ultimate; equipment complete within 65 per cent, and part rate operations started; December, entire plant will be completed and plant will be in full operation.

The plant is one of the largest steel foundries, covering more than 90 acres of ground, of which 30 acres are under one roof in buildings nearly one-third of a mile long. More than 22,000 tons of structural steel were used in the buildings and it was erected at the rate of over 1,200 tons per week. More than 60,000 cubic yards of concrete were required and more than 5 miles of railway tracks and 3½ miles of roadways were built. Six open hearth furnaces and 41 specially-designed heat treating furnaces were erected, in addition to specially constructed production equipment which constitutes about half the cost of the plant.

More Work for I. C. C. Soybean Permit Agents

The Interstate Commerce Commission, Division 3, has issued Amendment No. 5 to Service Order No. 80, authorizing agents previously appointed to issue permits for the movement of soybeans to issue also permits for the movement of corn and other grains. Points at which the agents are located were listed in the *Railway Age* issues of October 10, page 582, and October 31, page 708.

In the latter connection, the present amendment designates a permit agent for Circleville, Ohio, eliminating that point from the jurisdiction of the Cincinnati, Ohio, agent.

National Resources Board Issues "Post-War Agenda"

The National Resources Planning Board has issued a "Post-War Agenda," which, as the press release put it, is designed "to provide a framework for post-war plans of public and private agencies." Set up in outline form, the agenda lists the "Development of Transportation" among the "Improvements in Physical Facilities," which might be embraced in "General Plans for Public Activity."

The agenda was prepared "for purposes of discussion," and under each of its headings it "poses a series of questions to which we must seek the answers when they shall be needed."

Under "Development of Transportation," this "objective" is stated: "The Modernization and Integration of Transportation facilities so as to Provide Efficient and Economical Service." The questions or "problems" are set up as follows:

1. What changes in transportation media will the war produce?

2. What additions and improvements will be needed in transportation facilities and terminals?

3. How can transportation facilities be integrated among themselves and with other services?

4. What are the prospective developments in foreign trade and the probable needs for merchant shipping and international airline shipping?

5. What developments in regulatory policy and government planning are necessary?

A couple of week's ago the Board made public its report on transportation, as noted in the *Railway Age* of November 7, page 748.

Construction

BALTIMORE & OHIO.—This railroad has awarded a contract for grading, paving, drainage and other construction work in connection with the rehabilitation of its Alexandria branch between Benning and Shepherd, District of Columbia, at estimated cost of $150,000, to the Empire Construction Company of Baltimore, Md.

CHICAGO, ROCK ISLAND & PACIFIC and CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—A contract amounting to about $300,000 has been awarded the Massman Construction Company, Kansas City, Mo., for the construction of piers Nos. 5 to 22 in the west approach and the west abutment of the new joint Missouri River bridge east of Kansas City. The piers and abutment will be of reinforced concrete founded on piling.

LOUISVILLE & NASHVILLE.—This road is constructing new passing tracks at St. Elmo, Ala., and Biloxi, Miss., at a cost of approximately $29,000 and $27,500, respectively, and a telephone line between Pensacola, Fla., and Chattahoochee, at a cost of about $27,400.

LOUISVILLE & NASHVILLE.—A contract amounting to approximately $50,000 has been awarded the Roberts & Schaefer Co., Chicago, for the construction of a reinforced concrete coal and sand plant of 300 tons capacity and a mechanical cinder handling plant at Flomaton, Ala. These facilities will duplicate those constructed at Etowah, Tenn., in 1941, the contract for which was reported in the *Railway Age* of November 30, 1940, page 846.

TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS.—A contract has been awarded the Hamilton Company, St. Louis, Mo., for the construction of a 5-in. thick gypsum tile wall with plate glass panels and sliding oak doors to replace a wrought iron fence along the south side of the St. Louis Union station midway. The work is part of a plan adopted last year for rehabilitating and modernizing this station, which included the construction of a new ticket counter and the extension of the waiting room.

WAR DEPARTMENT.—The U. S. Engineer Office at Boston, Mass., has awarded a contract amounting to less than $100,000 and more than $50,000 to T. J. Harvey & Son, Adams, Mass., for the construction of utilities, a railroad spur track and roads in Maine.

Supply Trade

W. E. Griffiths, manager of the product development department of the **Allegheny Ludlum Steel Corporation,** has been appointed assistant manager of sales of flat rolled products.

J. B. Martin, who retired on September 30 as general inspector of track of the New York Central, Lines West of Buffalo, with headquarters at Cleveland, Ohio, has been appointed general inspector of the **Woodings-Verona Tool Works** and the **Woodings Forge & Tool Co.,** Verona, Pa., with headquarters at Chicago.

Russel L. Whitney has been appointed sales manager of the transformer division of the **Westinghouse Electric & Manufacturing Co.,** in Sharon, Pa. For the past six years he was sales manager of Westinghouse's porcelain department in Derry, Pa. **A. C. Farmer,** formerly assistant sales manager, has been named assistant to the vice-president, and **A. P. Bender,** formerly sales manager, has been made assistant sales manager.

OBITUARY

George M. Verity, founder of the American Rolling Mill Company, Middletown, Ohio, who died on November 6, as reported in the *Railway Age* of November 14, was born in East Liberty, Ohio, on April 22, 1865. In 1886 he became manager of the W. C. Standish Wholesale Grocery Company in Cincinnati, Ohio, and in 1889 entered the steel industry when he took over the management of the Sagendorf Iron Roofing and Corrugating Company in Cincinnati. In 1891 this company was reorganized as the American Steel Roofing Company and Mr. Verity was

George M. Verity

elected vice-president and general manager. While in this capacity Mr. Verity decided to organize a company to manufacture iron and steel sheets, and in 1899 the American Rolling Mill Company, Middletown, Ohio, was incorporated. At the first meeting of the board of directors on January 5, 1900, he was elected president and general man-

News Department continued on next left-hand page

ager. He continued as president until January 8, 1930, when he was elected chairman of the board, the position he was holding at the time of his death.

Carl A. Johnson, chief engineer of the Pettibone Mulliken Corporation, Chicago, died on November 14, at his home in Oak Park, Ill., from a heart attack. Mr. Johnson was born in Chicago Heights, Ill., on November 29, 1895, and entered the employ of the Pettibone Mulliken Corporation in 1918 as a draftsman.

Abandonments

Under the heading "Railroads-in-War News" elsewhere in these pages appears an account of progress being made by ODT in "clearing" abandonment projects, originated by WPB.

ATCHISON, TOPEKA & SANTA FE.—In a proposed report in Finance Docket 13773 Examiner Ralph R. Molster recommends that the Interstate Commerce Commission deny the application of this road to abandon its line from Anthony, Kans., to Cherokee, Okla., 32.63 miles, which line was requisitioned and taken over by the War Production Board September 5. The examiner's recommendation is based on his conclusion that the record does not clearly show the line has been operated at a loss, while he finds that its patrons, chiefly wheat growers and shippers, would suffer through its abandonment. He suggests further that while the line's patrons may now be faced with "difficulties" as a result of its dismantling by WPB, they should not be required to "endure perpetuation of such sacrifices" under normal post-war conditions. The application should be denied, he proposes, without prejudice to its renewal after the war has ended.

CHICAGO, ROCK ISLAND & PACIFIC.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon a branch from Lawton, Okla., to Grandfield, 33.96 miles.

NASHVILLE, CHATTANOOGA & ST. LOUIS.—This road has applied to the Interstate Commerce Commission for authority to abandon its Rome Branch, extending from Kingston, Ga., to Rome, 17.7 miles.

NEW YORK CENTRAL.—This road and the Michigan Central have applied to the Interstate Commerce Commission for authority to abandon the latter's 3.98-mile line extending from a point in Paris Township, Kent County, Mich., to Grand Rapids.

TEXAS & PACIFIC.—In a proposed report in Finance Docket 13319 Examiner W. J. Schutrumpf recommends that the Interstate Commerce Commission authorize this road to abandon its branch from Ville Platte, La., to Eunice, approximately 15 miles.

Financial

CENTRAL OF NEW JERSEY. *Tax Payment.* The United States district court at Newark, N. J., on November 10 authorized the Central of New Jersey to pay $1,000,000 on 1942 property taxes to the State of New Jersey.

COLORADO & SOUTHERN. *Seeks Confirmation of Readjustment Plan.* The Colorado & Southern on November 10 filed a petition with the United States district court at Denver, Colo., asking that a date be set for hearings on its voluntary plan of adjustment for extension of maturities and modification of interest charges, which it is endeavoring to effectuate by proceedings under the new McLaughlin Act. The petition states that the railroad has received assent to the plan from holders of more than two-thirds of the claims affected by the plan, including a majority of the aggregate amount of the claims of each affected class.

DELAWARE, LACKAWANNA & WESTERN. *Court Restrains Rental Payment.*—On October 31, in an action brought by the Government against the Delaware, Lackawanna & Western and two of its leased lines, the Syracuse, Binghamton & New York and the Utica, Chenango & Susquehanna Valley, in the United States district court at New York to collect income taxes against the two leased lines, the court issued a restraining order under the terms of which the D. L. & W. was prohibited from paying on November 2, to stockholders of the leased lines, the rental payable on that date under the leases between the companies.

GREAT NORTHERN.—*Promissory Notes.*—This road has applied to the Interstate Commerce Commission for authority to issue promissory notes for amounts totaling not more than $21,800,879.51 for the purpose of refinancing indebtedness incurred under conditional sales and equipment leases for the purchase of equipment acquired from time to time during the past four years. The indebtedness is now being carried as a deferred liability, and the applicant desires before the end of the year to transfer it to funded debt unmatured. The notes would be made in favor of Pullman-Standard Car Manufacturing Company; Pressed Steel Car Company; Electro-Motive Corporation; and General American Transportation Corporation.

MISSOURI PACIFIC. *Court Denies Petition to Repay RFC Loan.*—The United States district court at St. Louis, Mo., on November 16 denied a petition by the executive committee of the Missouri Pacific requesting authorization for the repayment of the railroad's debt to the Reconstruction Finance Corporation amounting to $23,134,800 plus interest. (See *Railway Age* of October 10, page 587.)

NELSON & ALBERMARLE.—*Bonds.*—This road has applied to the Interstate Commerce Commission for authority to issue $100,000 of new four per cent 10-year first mortgage bonds to refund a like amount of six per cent bonds maturing January 1, 1943.

NEW YORK CENTRAL. *Declares Common Dividend.* The New York Central on November 11 declared a dividend on its common stock of $1 per share, payable January 15, 1943. The dividend constitutes the first return since 1931 to the 61,500 stockholders of the railroad whose equity, represented by invested capital and surplus, aggregates $771,800,000. F. E. Williamson, president, in announcing the dividend, estimated that 1942 net earnings, after payment of all charges, will approximate $7 per share. He added, however, that obligations maturing over the next four years are substantial and that this, together with the necessity of providing for capital improvements, must be taken into consideration in any determination of future dividends. The New York Central's policy of debt retirement has resulted in substantial improvement since 1932. Total outstanding obligations of the railroad and its lessor companies have been reduced by $185,000,000, of which approximately $45,000,000 have been met this year. Annual interest charges as compared with 1932 have been reduced by $11,500,000.

NEW YORK, SUSQUEHANNA & WESTERN.—*New Reorganization Plan Offered.*—The Prudential Insurance Company of America, the New York Life Insurance Company, and the Mutual Benefit Life Insurance Company, reporting holdings of more than 30 per cent of the outstanding bonds of the New York, Susquehanna & Western, on November 13 presented to the United States district court at Newark, N. J., a proposal for the reorganization of that railroad by January 1, 1944. The new plan calls for a capitalization of $16,250,000 ($9,000,000 in bonds and $7,250,000 in stock) as follows: $2,000,000 terminal first mortgage 4 per cent bonds; $3,000,000 consolidated first mortgage 4 per cent bonds; $4,000,000 general mortgage 4½ per cent income bonds; $3,000,000 5 per cent preferred stock; and $4,250,000 of $100 par value common stock. This compares with present bond indebtedness plus accrued and unpaid interest of $16,030,271. The current cost of reproduction plus other assets was fixed by the three insurance companies at $19,526,577.

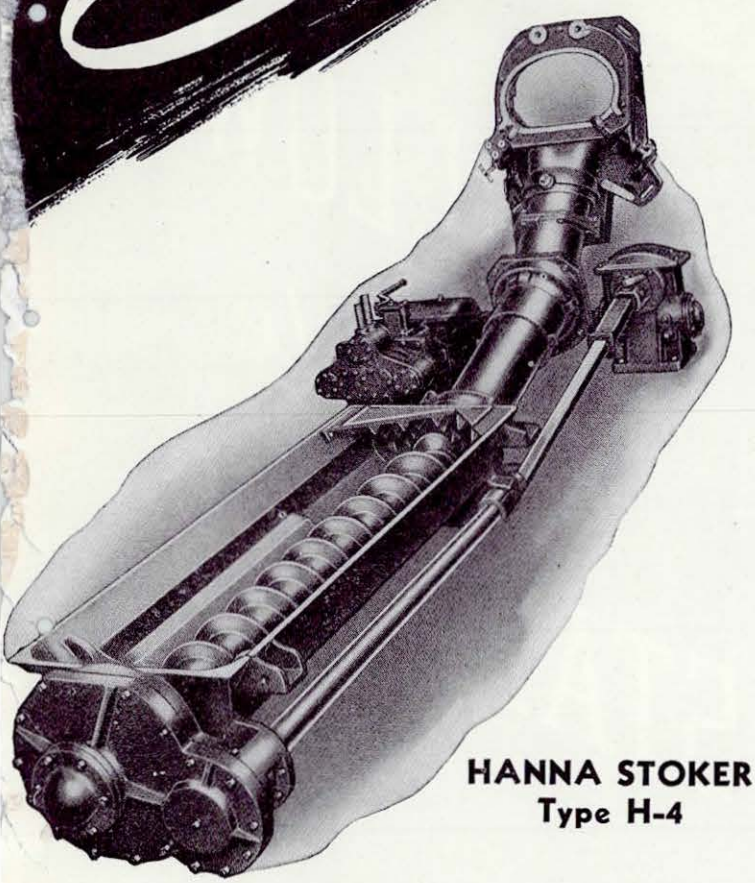
PENNSYLVANIA. — *Increases Common Dividend.*—The Pennsylvania on November 12 declared a dividend of $1.50 per share on the railroad's common stock payable December 18. This brings the total common disbursement for 1942 to $2.50 per share, as compared with $2.00 a share paid in 1941, and represents the largest common disbursement for any year since 1931, when $3.25 a share was paid.

ST. LOUIS SOUTHWESTERN.—*Court Authorizes Interest Payments.*—The United States district court at St. Louis, Mo., on November 7 authorized the railroad to pay back interest amounting to $100 per $1,000 principal amount of second mortgage 4 per cent gold income bonds, this payment covering five interest coupons due semi-annually from January 1, 1938, to January 1, 1940, inclusive; also, two coupons due July 1, 1936, and January 1, 1937, or $50 per $1,000

News Department continued on second left-hand page

The FAST Schedules of To-day

Demand Free Steamers



HANNA STOKER
Type H-4

THERE are several outstanding features in the HANNA System which insure better combustion, higher firebox temperatures and consequently sustained maximum boiler horse-power under all operating conditions.

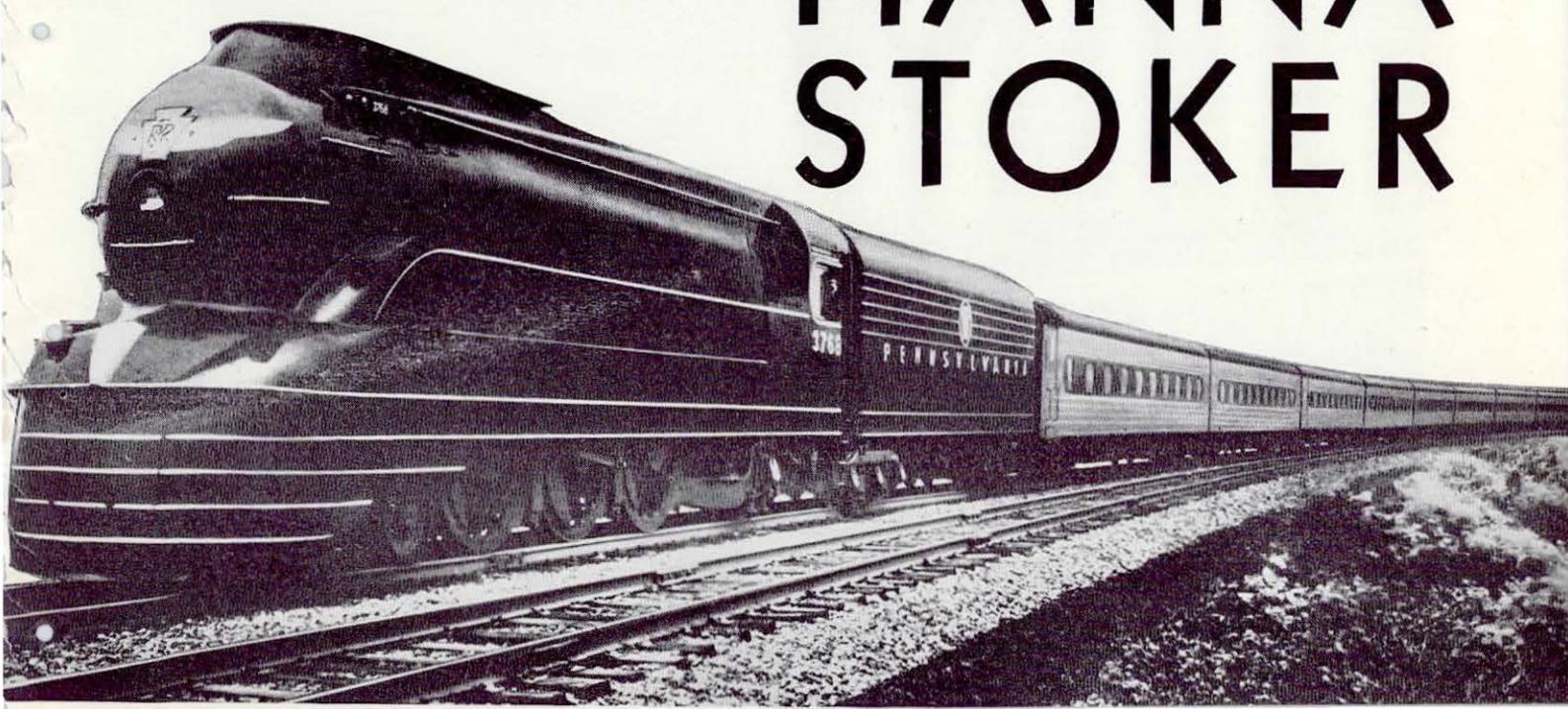
With the HANNA System the coal is properly sized, properly conditioned, delivered where needed and scientifically distributed.

In other words, the HANNA Stoker is designed to answer the requirements of complete combustion. The fuel is directed to the jets—not the jets to the fuel. This avoids banks and gives the flexibility of hand-firing, but with added mechanical scientific precision.

HANNA distribution minimizes honey-combing and the necessity of fire cleaning at intermediate terminals. Steaming capacity is increased to a degree which frequently permits enlargement of the nozzles.

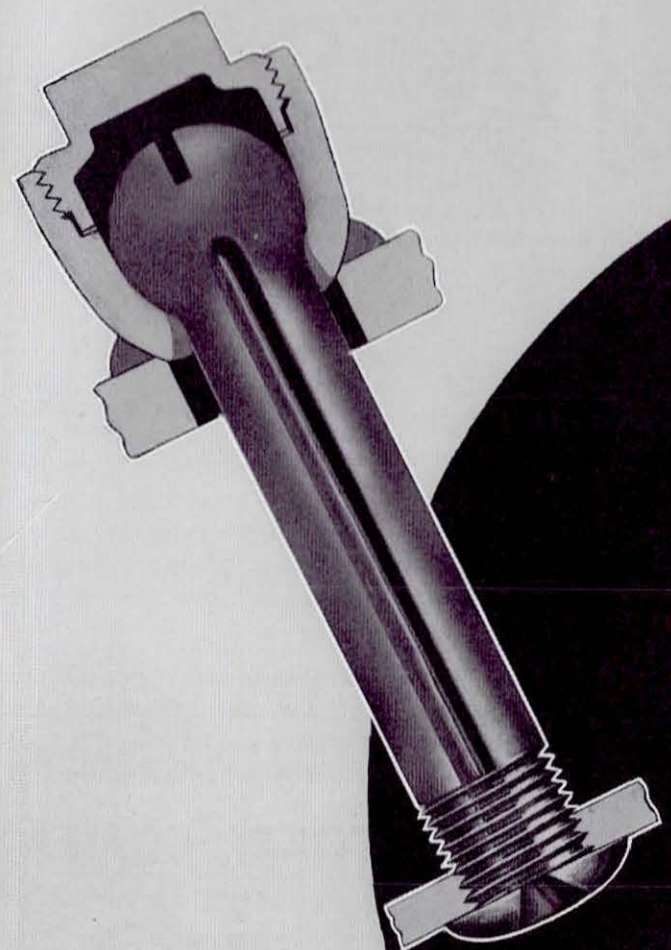
HANNA STOKER COMPANY
CINCINNATI OHIO

HANNA STOKER



FOR MODERN PAS

To "keep 'em rolling" mo



HOLLOW
Flexible
STAYBOLTS

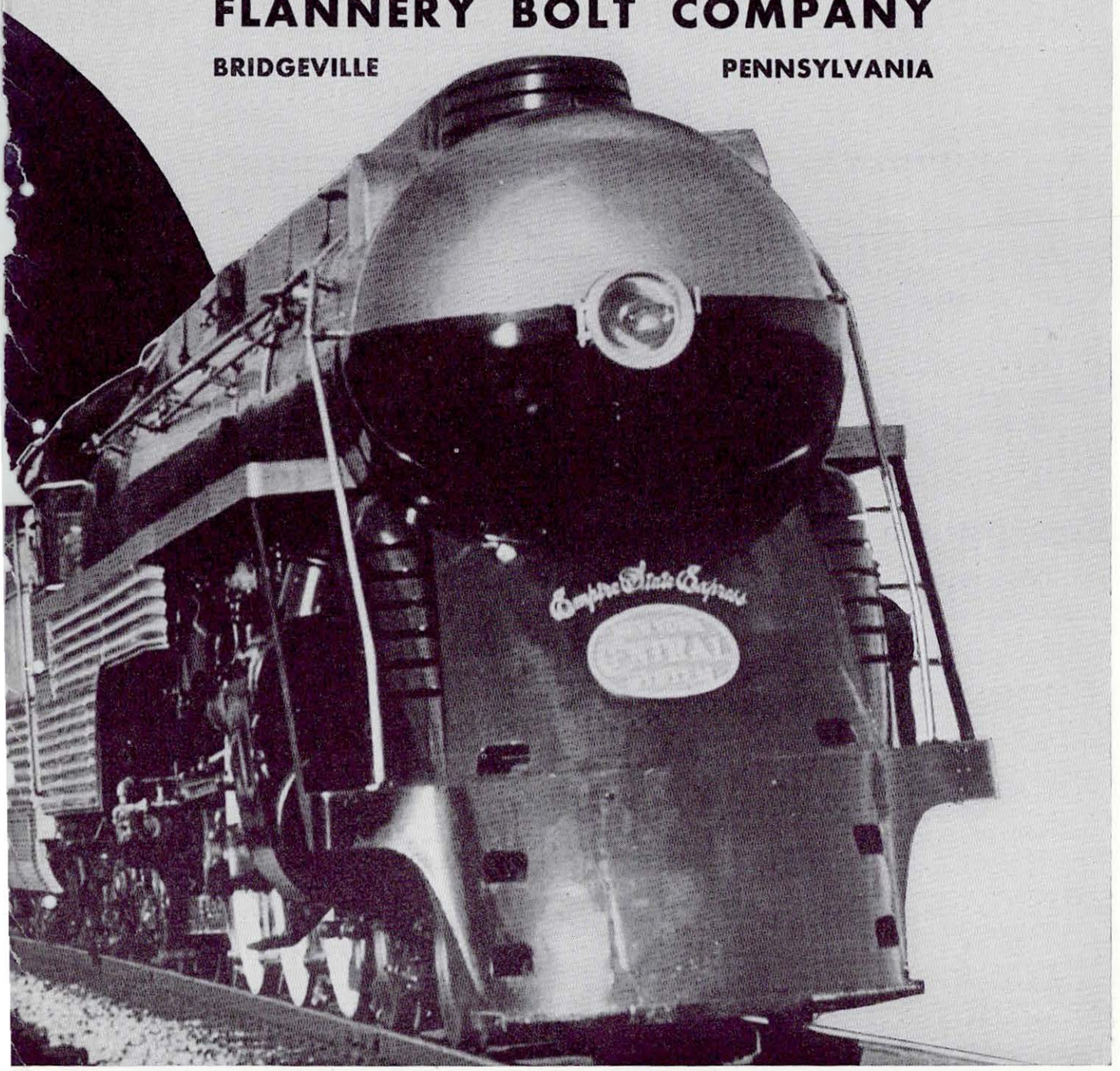
SENGER POWER

re miles per month

With less loss of time

FLANNERY BOLT COMPANY

BRIDGEVILLE **PENNSYLVANIA**



bond, on the 5 per cent first terminal and unifying mortgage bonds; and the balance of $16.50 per $1,000 bond, which was due January 1, 1936, on the general and refunding 5 per cent bonds.

UNITED STATES STEEL CORPORATION.—*Control of Subsidiary Railroads.*—This company has applied to the Interstate Commerce Commission for authority to acquire direct control of 11 of its affiliated railroads through purchase of their capital stock from its subsidiary corporations. The railroads are: Birmingham Southern; Carbon County; Connellsville & Monongahela; Donora Southern; Etna & Montrose; Hanibal Connecting; Johnstown & Stony Creek; McKeesport Connecting; Newburgh & South Shore; Northampton & Bath; Youngstown & Northern. The application states that the proposed transactions will simplify the applicant's corporate structure, and bring tax savings to it and the subsidiaries now holding the railroads' stock in that dividends on the latter will pass direct to applicant. Because there is "no readily ascertainable market value," it is proposed to take over the stock for amounts at which it is carried on the books of the present holders.

Average Prices of Stocks and Bonds

	Nov. 17	Last week	Last year
Average price of 20 representative railway stocks..	28.93	29.56	28.03
Average price of 20 representative railway bonds..	68.13	68.32	64.41

Dividends Declared

New York Central.—$1.00, payable January 15, 1943 to holders of record December 10.

North Pennsylvania.—$1.00, quarterly, payable November 25 to holders of record November 16.

Pennsylvania.—$1.50, payable December 18 to holders of record November 21.

Pittsburgh & Lake Erie.—$3.50, payable December 15 to holders of record November 20.

Pittsburgh, Bessemer & Lake Erie.—Preferred, $1.50, semi-annually, payable December 1 to holders of record November 14.

Pittsburgh, Youngstown & Ashtabula.—7 Per Cent Preferred, $1.75, quarterly, payable December 1 to holders of record November 20.

Equipment and Supplies

FREIGHT CARS

THE MISSOURI PACIFIC is inquiring for 1,700 new freight cars, including 1,600 40-ft. 8-in. composite triple hopper cars of 70 tons' capacity and 100 53-ft. 6-in. SU flat cars of 50 tons' capacity.

THE ATLANTIC COAST LINE is inquiring for a total of 900 new freight cars, including 300 53-ft. 6-in. flat cars of 50 tons' capacity, 300 41-ft. 6-in. composite gondola cars of 50 tons' capacity, and 300 33-ft. composite hopper cars of 50 tons' capacity.

MOTOR VEHICLES

THE BRITISH COLUMBIA ELECTRIC RAILWAY, Vancouver, B. C., has received delivery of nine 31-passenger motor coaches from the Twin Coach Company of Kent, Ohio.

Railway Officers

EXECUTIVE

F. A. Hasbrouck, statistician of the New York Central, has been appointed special assistant to vice-president, with headquarters as before at New York.

FINANCIAL, LEGAL AND ACCOUNTING

C. M. Ostrander has been appointed statistician of the New York Central at New York, succeeding **F. A. Hasbrouck,** whose appointment is noted elsewhere in these columns.

H. Horton Hough, district claims agent of the Canadian Pacific at Toronto, Ont., has been appointed assistant general claims adjuster, with headquarters at Windsor station, Montreal, Que.

William McLarnon, chief clerk in the tax department of the Canadian National at Winnipeg, Man., has been promoted to assistant tax commissioner of the Western region, with the same headquarters, succeeding **R. R. Nichol,** deceased.

OPERATING

Charles O. Ellis, whose promotion to superintendent of telegraph of the Chicago, Rock Island & Pacific, with headquarters at Chicago, was reported in the *Railway Age* of November 7, was born at Riderville, Ala., on August 27, 1894, and entered railway service on the Pennsylvania in 1916, serving as telephone and telegraph inspector and assistant foreman, telegraph and signals, at Wilmington, Del., until 1925. On June 2, 1927, he went with

Charles O. Ellis

the Rock Island as a lineman in the telegraph department, later serving as special clerk and record clerk and draftsman in the office of the superintendent of telegraph in Chicago. On March 16, 1929, he was promoted to telegraph and telephone inspector, with headquarters at Chicago. Mr. Ellis then served intermittently as record clerk and draftsman and telegraph and telephone inspector until October 1, 1934, when he was promoted to telegraph and telephone engineer, system, with the same headquarters. On June 1, 1940, he was advanced to assistant superintendent of telegraph, system, which position he held until his recent promotion, effective November 1.

Edward Darlington Cotterell, whose promotion to general manager of the Eastern lines of the Canadian Pacific with headquarters at Toronto, Ont., was announced in the *Railway Age* of November 7, was born on January 26, 1881, in England. He entered railway service in 1897 as a messenger in the telegraph department of the Canadian Pacific at Montreal, Que., and in 1898 was sent to Western Canada as an operator. Later in 1898 he joined the New York Central as an operator, becoming chief train dispatcher of the Hudson division in 1910. Mr. Cotterell remained with the New York Central until 1913, when he rejoined the Canadian Pacific at Winnipeg, Man., where he served successively as superintendent of car services, and super-

Edward D. Cotterell

intendent of transportation. In 1928 he was appointed general superintendent of the Manitoba district, being transferred to the Saskatchewan district, with headquarters at Moose Jaw, Sask., late in 1932, and to the Alberta district, with headquarters at Calgary, Alta., in 1933. On October 24, 1942, Mr. Cotterell was appointed acting assistant general manager of the Eastern lines at Toronto, the position he was holding at the time of his recent appointment

M. L. Shearer has been appointed trainmaster of the Baltimore & Ohio at Dayton, Ohio, succeeding **C. W. Havens,** whose promotion to acting assistant superintendent at Toledo, Ohio, was reported in the *Railway Age* of October 17.

Clyde J. Fitzpatrick, whose promotion to superintendent of the Springfield division of the Illinois Central, with headquarters at Clinton, Ill., was reported in the *Railway Age* of October 31, was born at Centralia, Ill., on December 7, 1908, and entered railway service on June 3, 1924, as a telegraph operator on the St. Louis division of the Illinois Central. On April 29, 1929, he was promoted to train dis-

News Department continued on next left-hand page

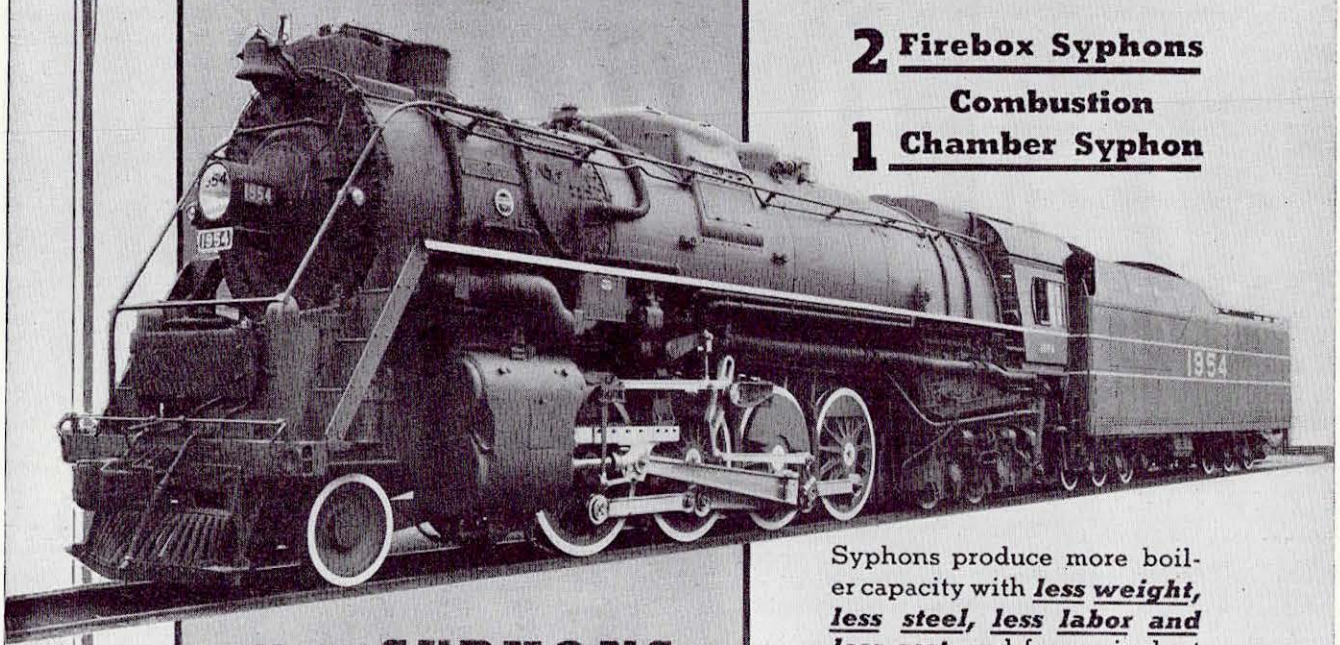
BECAUSE OF THESE
PRE-WAR RECORDS

★ ★ SAFETY FROM BOILER EXPLOSION
★ ★ ECONOMY IN FUEL CONSUMPTION
★ ★ INCREASED BOILER CAPACITY

NICHOLSON THERMIC
SYPHONS
Are used for
WAR-TIME SERVICE

Fourteen new 2-8-4 type locomotives for the Louisville and Nashville R.R. are equipped with—

2 Firebox Syphons
1 Combustion Chamber Syphon



Syphons produce more boiler capacity with ***less weight, less steel, less labor and less cost,*** and for equivalent results assure greater economy in service and maintenance than larger boilers without Syphons plus safety from boiler explosions.

★

Now* SYPHONS *are making new war-time records

Locomotive Firebox Company

NEW YORK CHICAGO MONTREAL

patcher and on March 30, 1930, he was transferred to the Wisconsin division. From September 21, 1931, to October 6, 1936, Mr. Fitzpatrick served as a dispatcher and telegraph operator on the Springfield division, a laborer and carman helper in the mechanical department at

Clyde J. Fitzpatrick

Centralia, Ill., and chief clerk in the locomotive department at Markham (Chicago) yard. On the latter date he was appointed a telegraph operator on the Chicago terminal. From September 1, 1937, to April 15, 1940, he served as station inspector, acting assistant general yardmaster, clerk in the superintendent's office and telegraph operator in the Chicago terminal. On the latter date Mr. Fitzpatrick was promoted to assistant trainmaster and on January 16, 1941, he was advanced to trainmaster at Freeport, Ill. He was transferred to McComb, Miss., on November 1, 1941, where he remained until his recent promotion, effective November 1.

O. V. Horace, trainmaster of the Waycross district of the Atlantic Coast Line, has been transferred to the Montgomery district, with headquarters at Dothan, Ala. **J. L. Kennedy,** general yardmaster at Lakeland, Fla., has been appointed acting trainmaster of the Waycross district, with headquarters at Waycross, Ga.

James A. Mercer, superintendent of the Fargo division of the Northern Pacific, with headquarters at Fargo, N. D., has been promoted to general manager of the Eastern lines, with headquarters at St. Paul, Minn., succeeding **William W. Judson,** who has been granted a leave of absence to serve as chief of the new Public Service branch of the Program division of WPB, as reported in the *Railway Age* of November 14. **Walter D. Pearce,** superintendent of the Yellowstone division at Glendive, Mont., has been transferred to Fargo, relieving Mr. Mercer, and **Howard W. McCauley,** superintendent of the ore operations at Superior, Wis., has been advanced to superintendent at Glendive, replacing Mr. Pearce. **J. T. Stotler,** trainmaster at Dickinson, N. D., succeeds Mr. McCauley at Superior.

Mr. Mercer was born at Shelbyville, Mo., on February 6, 1876, and entered railway service in March, 1893, as an agent on the Quincy, Omaha & Kansas City (controlled by the Chicago, Burlington & Quincy), at Dunlap, Mo. From June, 1896, to December, 1904, Mr. Mercer served with various roads in the West, including the Denver & Rio Grande Western, as cashier at Gunnison, Colo., and operator at Springville, Utah; the Colorado & Southern, as agent at various points in New Mexico and Colorado; the Atchison, Topeka & Santa Fe, as agent at Socorro, N. M., and Los Lumas; and the Oregon Short Line (now the Union Pacific), as operator at Blackfoot, Idaho. On October 5, 1905, he went with the Northern Pacific as an operator at Livingston, Mont., and was later appointed successively car distributor, chief yard clerk, chief dispatcher, dispatcher and train rules examiner at various points on the Northern Pacific in Montana. During the war he entered the U. S. Army as a first lieutenant in the 63rd Engineers, later being transferred and promoted to the rank of major in the Transportation corps. In August, 1919, he returned to the Northern Pacific as a dispatcher in Montana, and from December, 1919, to August 1, 1927, he served as acting trainmaster, dispatcher and trainmaster at various points in Montana. On the latter date, Mr. Mercer was advanced to

James A. Mercer

assistant superintendent at Billings, Mont., and six years later he was transferred to Fargo. On February 1, 1940, he was promoted to superintendent of the Fargo division, which position he held until his recent promotion, effective November 16.

TRAFFIC

L. J. Donahue has been appointed division freight agent of the New York Central, with headquarters at New York.

Carlton F. Heard, assistant general freight agent of the Boston & Maine, has been promoted to general freight agent, with headquarters as before at Boston, Mass.

D. A. Chisholm has been appointed general agent, freight traffic department, of the New York Central, with headquarters at Rochester, N. Y., succeeding **S. A. R. Lancto,** furloughed to enter United States Government service.

Charles G. Mengel, district freight agent of the Southern Pacific at Chicago, has been promoted to general agent at Washington, D. C., succeeding **W. H. Herrin,** who has been granted a leave of absence for military service.

Paul F. Egeler has been appointed coal freight representative of the Baltimore & Ohio, with headquarters at New York, to assume the duties of **C. Burrows Freeman,** coal freight agent, who has been granted a leave of absence to enter military service.

Frank P. Soen has been appointed assistant coal freight agent of the New York Central System, with jurisdiction over the New England territory. Mr. Soen, whose headquarters are at Boston, Mass., will also continue to be attached to the New York office of the New York Central System.

George J. Bradner, general agent of the Ann Arbor at Detroit, Mich., has been advanced to assistant general freight agent, with headquarters at Toledo, Ohio, succeeding **J. A. Leonard,** resigned. **E. J. Fillion,** commercial agent at Owosso, Mich., has been advanced to general agent at Detroit, relieving Mr. Bradner.

ENGINEERING & SIGNALING

Charles T. Warren, engineer of track of the Wabash, with headquarters at St. Louis, Mo., has been commissioned a major in the Military Railroad Service.

MECHANICAL

R. R. Sneddon, assistant master mechanic of the New York Central (Michigan Central) at West Detroit, Mich., has been promoted to master mechanic at Jackson, Mich., succeeding **E. J. Burck,** who has been appointed assistant master mechanic at Jackson.

OBITUARY

F. N. Hayes, master mechanic of the Virginian at Elmore, W. Va., died on November 13, at Mullens, W. Va.

Walton M. Wentz, publicity representative of the Eastern region of the Pennsylvania, died of a heart attack on November 16 at the age of 57.

John C. Fetzer, organizer and first president of the Illinois Northern for several years after its organization in 1901, died at his home in Hinsdale, Ill., on November 13.

Joseph P. Blair, who retired from the position of general counsel of the Southern Pacific in December, 1929, after 45 years of service with that company, died on November 15 at his home at New York. He was 82 years old.

John H. Crawford, former freight traffic manager of the Delaware, Lackawanna & Western, who retired from that position in 1918, died on November 10 at his home at Miami Beach, Fla. He was 79 years old.

Charles M. Woodman, who retired in 1936 as assistant general passenger agent of the Chicago, Indianapolis & Louisville (Monon), with headquarters at Chicago, died on November 15 at his home in that city.

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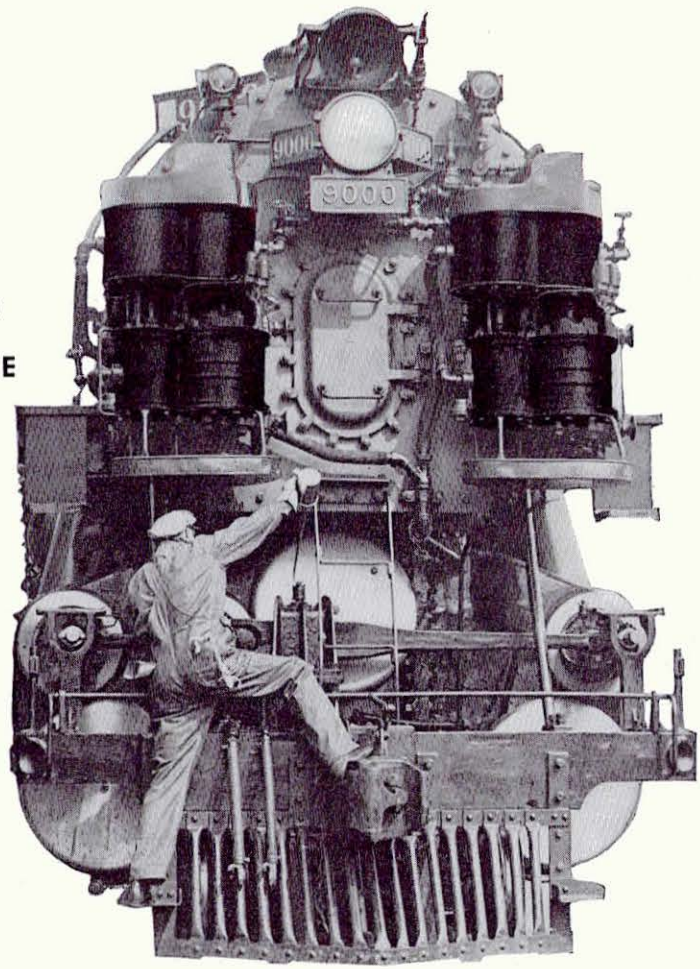

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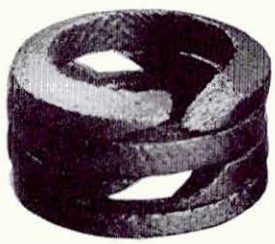

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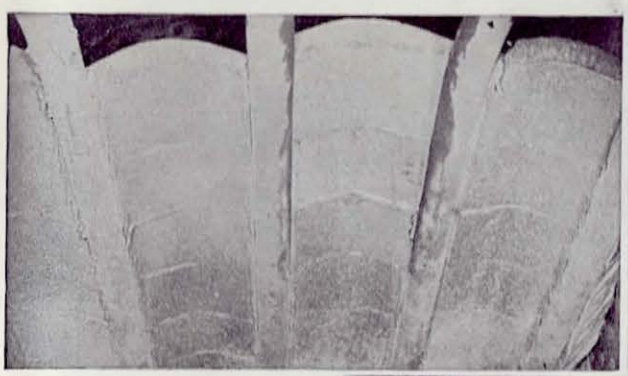

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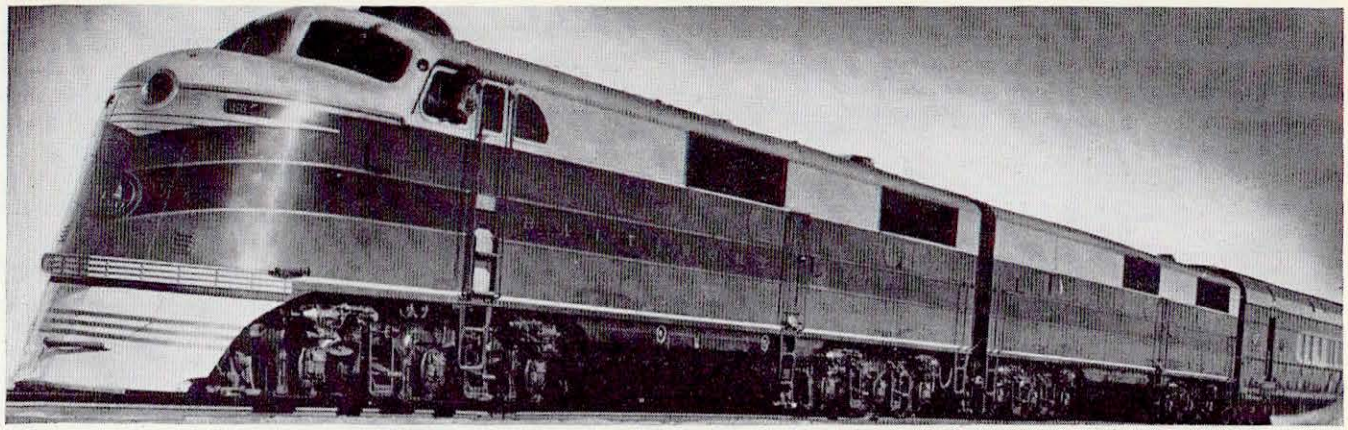

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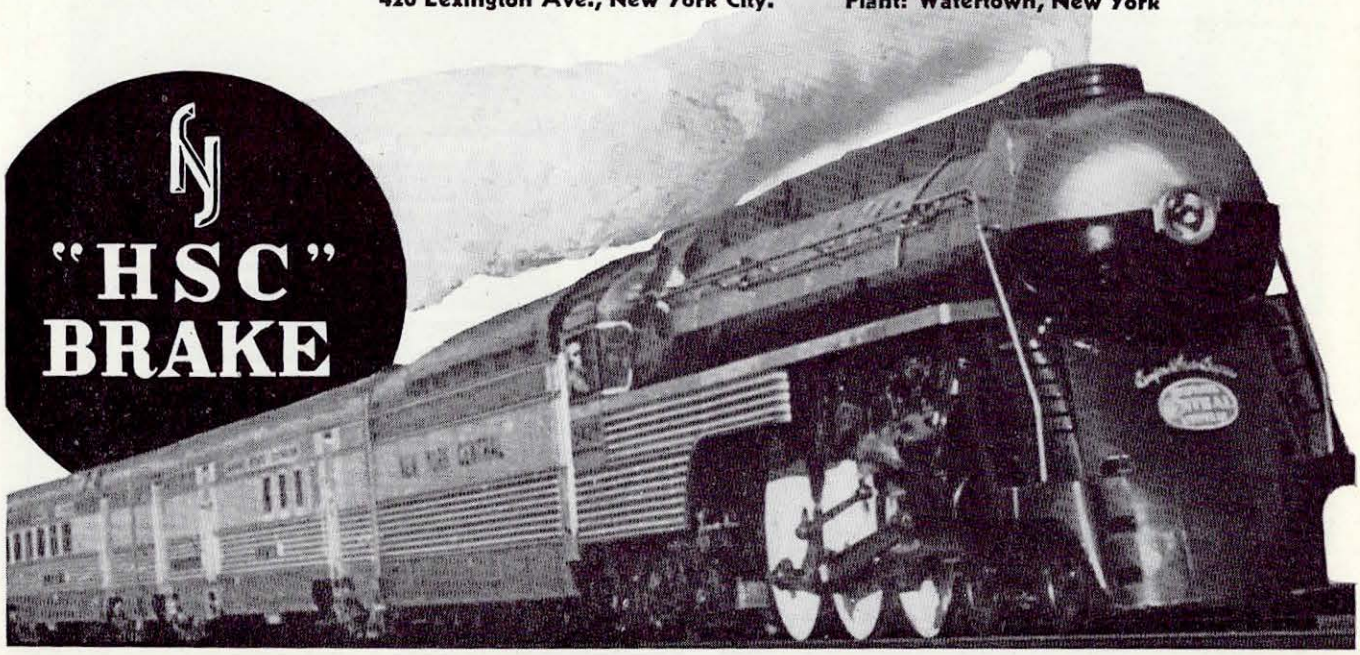

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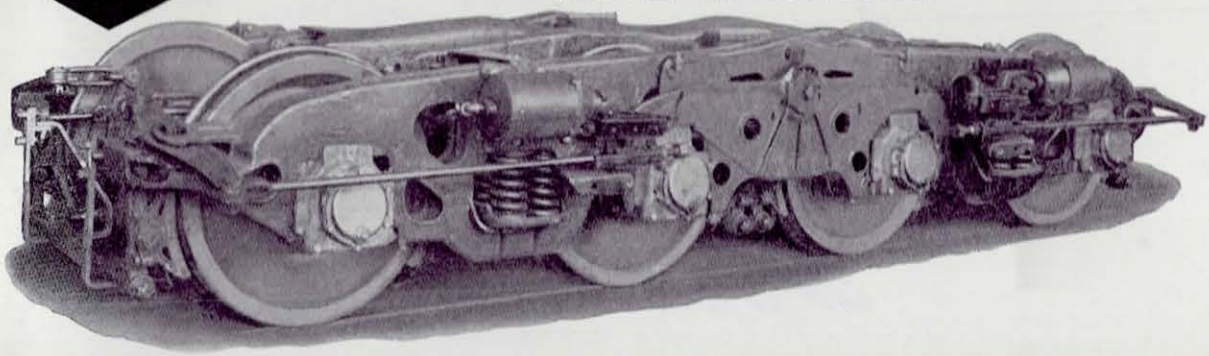

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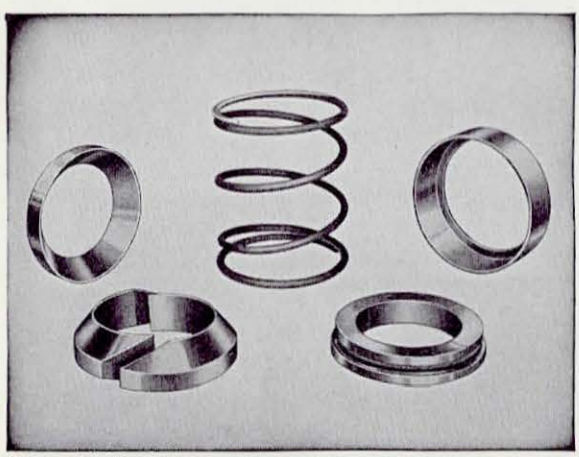

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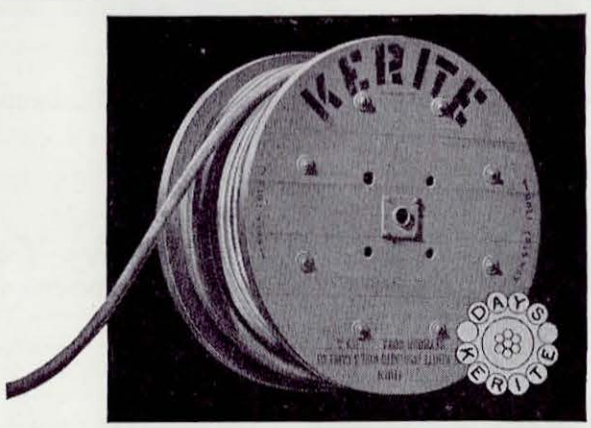

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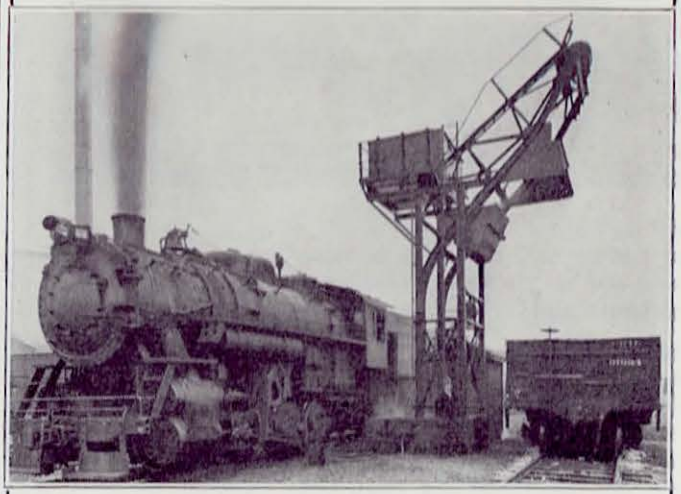

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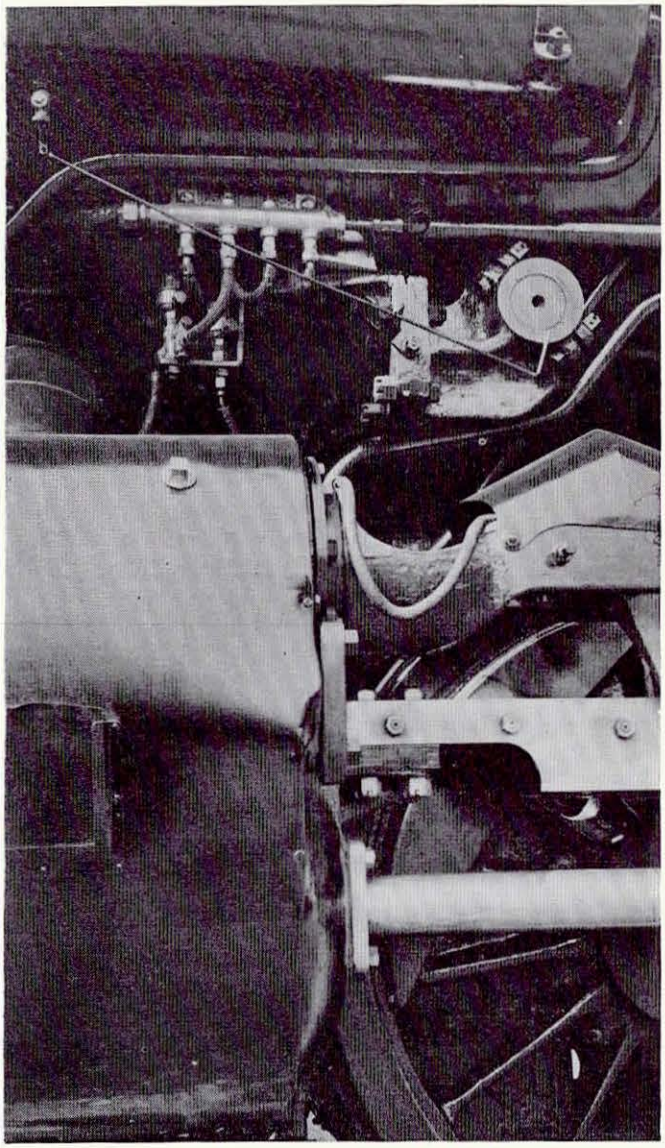

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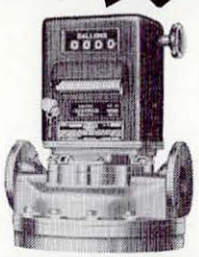

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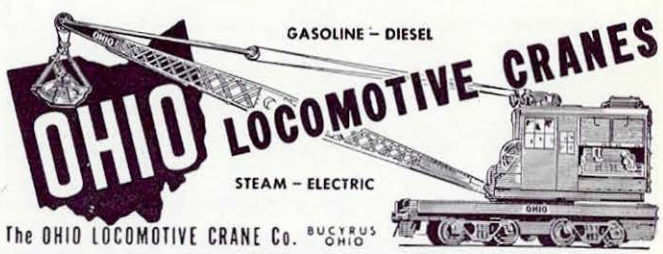

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For Index to Advertisers
See Last White Page

Index to Advertisers

November 21, 1942

A

Adams & Westlake Company, The 16
Air Reduction Sales Co. 6
Alan Wood Steel Company 65
American Arch Company, Inc. 61
American Brake Shoe and Foundry Co., The 41, 42, 43
American Creosoting Company, Inc. 26, 27
American Hammered Piston Ring Div. of Koppers Co. 39
American Locomotive Company 7, 36, 37, 65a, 66, 67, 68
American Optical Company 18
American Rolling Mill Company 52
American Steel Foundries 47
American Steel & Wire Company 4, 5
Armco Railroad Sales Company 52

B

Baldwin Locomotive Works, Inc. 19, 20, 21
Barco Manufacturing Company 33
Bartlett Hayward Div. of Koppers Co. 39
Bowser & Co., Inc., S. F. 85
Buckeye Steel Castings Company, The 80

C

Canadian Cardwell Co., Ltd. 24
Cardwell Westinghouse Co. 24
Carnegie-Illinois Steel Corporation 4, 5
Chase and Company, L. C. 25
Chicago Railway Equipment Co. 49
Classified Advertisements 84
Colonial Creosoting Company, Inc. 26, 27
Colorado Fuel and Iron Corporation, The 48
Columbia Steel Company 4, 5

D

Davenport Locomotive Works, a division of Davenport Besler Corp. 81
Duner Company 85

E

Edgewater Steel Company 28
Electric Storage Battery Company, The..... 30
Electro-Motive Division, General Motors Corporation Front Cover, 69a, 70, 71, 72

F

Flannery Bolt Company 74, 75
Flex-O-Tube Co. 83
Franklin Railway Supply Company, Inc. 60

G

General Electric Company 7
General Railway Signal Co. .....Back Cover
General Refractories Company 78
Georgia Creosoting Company, Inc. 26, 27
Get Together Department 84
Gold Car Heating & Lighting Co. 85
Grip Nut Company 29

H

Hanna Stoker Company 73
Harbison-Walker Refractories Co. 61
Haskelite Manufacturing Corporation 52a
Hennessy Lubricator Company 51
Houde Engineering Division of Houdaille-Hershey Corporation 50
Hunt Company, Robert W. 84
Hunt-Spiller Mfg. Corporation 64
Hyatt Bearings Division, General Motors Corp. 54
Hyman-Michaels Company 84, 85

I

Inland Steel Company 3
International Creosoting & Construction Co. 34
Iron & Steel Products, Inc. 84

J

Johns-Manville Corp. 35
Justrite Manufacturing Co. 82

K

Kerite Insulated Wire & Cable Co., Inc., The..... 80
Koppers Coal 39
Koppers Company 39

L

Lima Locomotive Works, Inc. 59
Locomotive Finished Material Company, The 69
Locomotive Firebox Company 76
Logan Drinking Cup Co. 81

M

McConway & Torley Corporation 46
Minneapolis-Honeywell Regulator Company 83

N

National Malleable and Steel Castings Company..... 22
National Tube Company 4, 5
New York Air Brake Company, The 79

O

Ohio Locomotive Crane Co., The 85
Oxweld Railroad Service Company, The 12, 13

P

Pacific Coast Envelope Co. 81
Peerless Equipment Company 53
Pittsburgh Spring & Steel Co. 85
Pullman-Standard Car Manufacturing Co. 44, 45

R

Railway Educational Bureau, The 84
Railway Steel Spring Division of American Locomotive Company 36, 37
Ramapo Ajax Division, American Brake Shoe & Foundry Co. 41
Republic Steel Corporation 8, 9
Ross and White Company 82
Ryerson & Son, Inc., Joseph T. 90

S

Safety Car Heating and Lighting Company, Inc., The 40
Schaefer Equipment Company 2
Scully Steel Products Company 4, 5
Silent Hoist, Winch & Crane Co. 82
Simmons-Boardman Publishing Corporation 52b, 84
SKF Industries, Inc. 10, 11
Sonken-Galamba Corp. 84
Standard Car Truck Company 32
Standard Railway Equipment Mfg. Company 58
Standard Steel Works Division of Baldwin Locomotive Works 19
Standard Stoker Company, Inc., The 23
Sturtevant Company, B. F. 14, 15
Superheater Co., The 62
Symington-Gould Corp., The 91

T

Tar and Chemical Div. of Koppers Co. 39
Tennessee Coal, Iron & Railroad Company.....4, 5
Timber Engineering Company 38
Tuco Products Corporation 85

U

Union Asbestos & Rubber Co. 77
Union Carbide and Carbon Corporation.....12, 13
Union Switch & Signal Company 56
U. S. Envelope Company 81
U. S. Metallic Packing Co., The..... 80
United States Steel Corporation 4, 5
United States Steel Export Company.....4, 5

V

Vapor Car Heating Co., Inc. 31

W

Waugh Equipment Company 17
Westinghouse Air Brake Co. 63
White Tar Div. of Koppers Co. 39
Wood Preserving Div. of Koppers Co. 39

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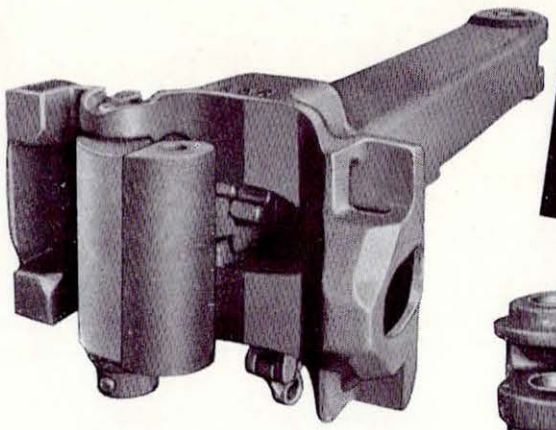
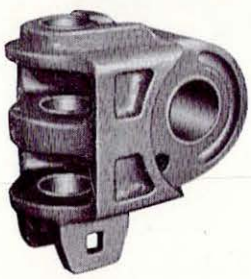


A. A. R. Tight Lock Coupler with 6½ in. by 8 in. Shank



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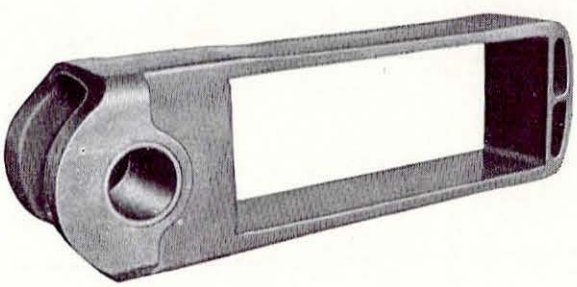

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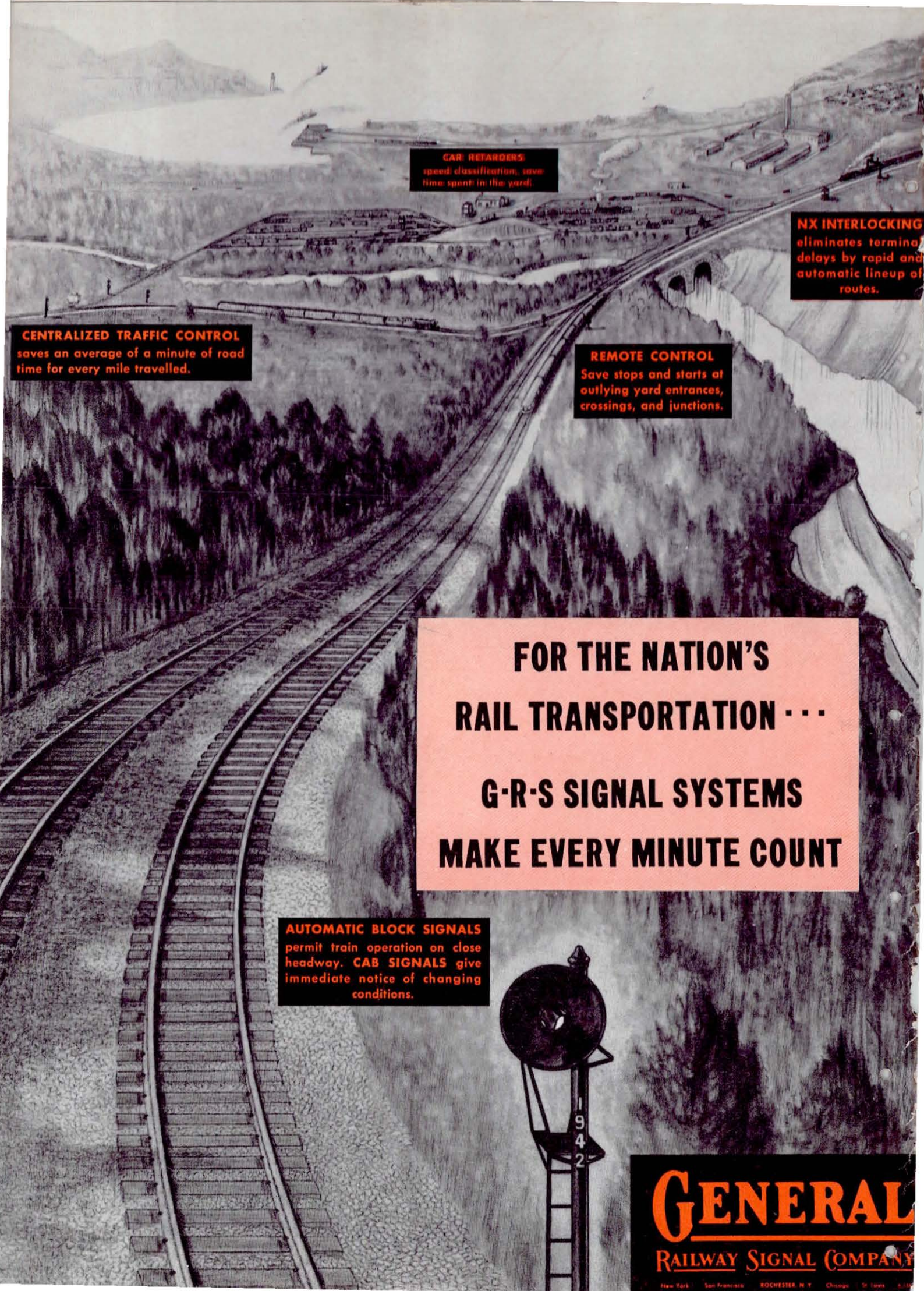
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